

ON THE CONDITION OF SYNTACTIC RECOVERABILITY OF NULL
ARGUMENTS IN KOREAN

BY

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**This dissertation is dedicated to
the Glory of God**

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Abstract of Dissertation Presented to the Graduate School
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This dissertation combines the ways of licensing and identifying the reference of a null argument. Building on the enriched INFL hypothesis, it claims that the Korean [+pronominal] agreement system is visible in honorifics, that [+pronominal] AGR becomes [+strong] when it attracts π -features from a c-commanding argument, that pro movement at LF is a consequence of the interaction between the Principle of Full Interpretation and various principles in the grammar, and that the pro-drop parameter needs to be reduced to a single statement: pro must be licensed and identified by [+strong] AGR.

It has been suggested that, in some Indo-European languages such as Spanish and Italian, null arguments are to be licensed by inflectional endings which indicate the person, number, and gender features of the subject. Korean inflectional endings, however, do not demarcate these features, and yet Korean

allows four types of null arguments such as discourse bound null arguments, pro_{arb}, argument bound logophoric null arguments, and argument bound non-logophoric null arguments, which challenge the traditional analysis. In addition, the distribution of null arguments in Korean indicates that there is a subject-object symmetry in the licensing and identifying mechanism of pro.

Reviewing previous research on pro-drop parameter, this study argues that Rich Infl Hypothesis, Zero Topic Hypothesis, Morphological Uniformity Hypothesis, D-Morpheme Hypothesis and GCR Parametrization Hypothesis are not adequate either empirically or theoretically. Building on the Minimalist Program, the current analysis argues that Specified AGR is different from [+pronominal] AGR in that the former behaves as a licensor and identifier of pro while the latter licenses it, but only identifies it indirectly.

The new theory is substantiated by the empirical evidence as follows: Korean honorific markers are sensitive to both nominative arguments and dative arguments; the agreement system in honorifics provides a parsing strategy of ordinary expressions in Korean which lack visible morphological agreement; the referential interpretation may be controlled by the mood markers, which indicates that [+/-AGR] specification on the mood markers is also available in Korean.

Topicalization in Korean is analyzed to show that the topic position is not an A'-position but an A-position and that topicalization is a result of Spec-Head agreement. One of the theoretical implications of this analysis is that Zero Topic is actually located in IP, which directly suggests that the current analysis is correct.

CHAPTER 1 OVERVIEW

This dissertation investigates the possible ways of identifying the reference of a null argument which is phonologically null but syntactically existent. The Null Subject Parameter (NSP) has been used as an umbrella term to describe the phenomenon, but it contains an underlying assumption that only subjects can be null. Thus, we will use the term 'pro-drop parameter' to refer to the phenomenon. The issue of 'pro-drop parameter' was explored for some Indo-European languages such as Spanish and Italian (Taraldsen, 1978; Rizzi, 1982; Borer, 1982 to name a few). In these languages, empty pronouns are argued to be licensed by inflectional endings which indicate the person, number, and gender features of the subject.

It was Huang (1984) who first drew our attention to East Asian languages such as Chinese, Korean, and Japanese in the discussion of the 'pro-drop parameter'. Introducing Ross's (1982) classification of languages, Huang divides all languages into three groups, i.e., "hot", "medium-hot", and "cool" languages. English is an example of a 'hot' language, Spanish and Italian 'medium-hot' ones, and Chinese, Korean, and Japanese 'cool' ones. In 'hot' languages, pronouns should be present at any time. For 'medium-hot' languages, which do not provide such a large information as "hot" languages, and 'cool' languages, which provide very little information to the listener, have an option that may delete a pronoun in a certain syntactic environment.

According to Huang (1984, 1987 and 1989), the 'cool' languages may have the null pro option because these languages can allow 'zero-topic/ null topic' at the beginning of each sentence. He argues, however, that 'cool' languages allow phonologically null pronouns (pro) in subject position only; he further claims that pro in object position is prohibited by the Generalized Control Rule (GCR):

- (1) GCR : Co-index an empty pronominal with the closest nominal element (Huang, 1984)

Huang's claims trigger the following questions :

- (2) i) Can Huang's GCR explain pro-drop phenomenon in other cool languages such as Korean and Japanese ?
 ii) If pro can actually appear in object position in Korean, how can its reference be identified?

Cole (1987), among many others, claims that there are languages which have null pronominal objects.¹ He provides some examples from Korean and Thai.

Note the following examples taken from Korean:

(3) [Korean]

a. John₁-i [[Mary₂-ka e₁ ttayleyssta] ko] cwucanghayssta.
 Nom Nom hit Comp claimed

'John claimed that Mary hit (him).'

b. John₁-i Mary₂-eke [[e₁ e₂ salanghanta] ko] cwucanghayssta.
 Nom Dat love Comp claimed

'John claimed to Mary that (he) loves (her).'

¹. See Zhang (1988) and Kameyama (1986).

If Korean allows pro in object position as in (3a) and (3b), how can its reference be identified? In its broadest sense, the present thesis is primarily concerned with the following questions.

- (4) i. What type of syntactic device permits deletion of pronominal elements in what we call pro-Drop languages? (Licensing Condition)
- ii. What syntactic mechanism provides the clue for the missing elements? (Identification)

In order to give a plausible answer to the questions addressed in (4), the following format is adopted. In Chapter 2, Chomsky's "principles and parameters" approach to syntax is introduced, particularly the justification of a syntactic model which assumes empty categories (ECs). I particularly address the issue of why ECs are assumed in the "principles and parameters" approach to syntax and how ECs are licensed and identified in this approach.

In Chapter 3, I discuss the distribution of "null arguments" in Korean. Specifically, it is argued that subject-object asymmetry in licensing pro is not observable in Korean, and that PRO as well as pro must be licensed. It is argued that there are no nonthematic subjects, i.e., neither lexical nor null nonthematic subjects are found in Korean. Four kinds of null objects are observed in this section: i) discourse bound null objects, ii) pro_{arb}, iii) argument bound logophoric null objects, and iv) argument bound non-logophoric null objects.

Chapter 4 is devoted to the issues concerning the syntax of "null arguments." Five different proposals on the "null subject" parameter are discussed, and the licensing and identification approach by Hermon and Yoon (1989) is ultimately presented as the most satisfactory explanation. First, Chomsky (1982) and Taraldsen's (1978) basic suggestions are reviewed and it is argued that their proposals are not adequate in explaining the pro-Drop phenomena in Korean because they assume that rich inflexion is the only possible licenser and identifier of pro. Second, Huang's (1984, 1987, 1989)

proposal is criticized since it disallows pro in object position, which is possible in Korean.² Third, the Morphological Uniformity Hypothesis of Jaeggli and Safir (1989) is seemingly appropriate but contains problems in that there is no justification between the morphological uniformity and pro identification. Proposals on "null objects" are also reviewed. First, Rizzi (1986) brought "null objects" in to the discussion of pro-drop phenomena. Second, Cole (1987) convincingly argues that there exists pro object in Korean and some other languages, and that Huang's GCR could be parameterized. His parameterized GCR analysis, however, is discarded since it does not provide any solution for the identification of pro object. Moon's (1989) proposal shows us a new realm of the pro-drop phenomenon in her proposal that a D (discourse) morpheme may license pro also. Her proposal, however, contains some problems. First, it is not adequate because there is no justification for the existence of "D-Morpheme". Second, it is not empirically complete in that it does not give any explanation of the fourth type of pro, i.e., she ignores argument bound non-logophoric null objects. The current study, thus, stands in the opposite position to her analysis in that a null object in an embedded clause can be construed with an argument in the matrix clause.³ I note, however, that recent proposals by Borer (1989), Hermon and Yoon (1989), and Rizzi (1986) suggest a possible direction that we should follow. Borer (1989) argues that obligatory control structure in Korean is responsible for [+ anaphoric] AGR, which indicates that the parametric variation in languages is largely determined by the elements in INFL. Hermon and Yoon (1989) propose that AGR in pro-Drop languages may be typologically classified into four types: i) fully specified AGR,

² Zhang (1988) and Kameyama (1986) also observe the existence of pro object in Chinese and Japanese respectively.

³ See 3.3 for detailed discussion on null pronominal objects.

ii) underspecified AGR, iii) partially specified AGR, and iv) PERSON lacking AGR. They suggest that Korean belongs to the second type. Finally, Rizzi (1986) proposes that pro is licensed and identified by some type of X^0 category, which indicates that the licenser of pro must be a governor. In regard to proposals on 'pro-drop parameter', the present study advocates Hermon and Yoon's proposal, which assumes that [+deictic] or equivalently [+pronominal] AGR licenses 'pro', and that 'object pro' is allowable. The present proposal, however, departs from their proposal in claiming that specified AGR is different from underspecified/[+pronominal] AGR in that the former behaves as a licenser and identifier of 'pro' while the latter licenses and identifies 'pro' indirectly. Consequently, I argue i) that a c-commanding NP or a topicalized NP provides phi-features to underspecified AGR in Korean; ii) that unspecified AGR becomes specified AGR through the ϕ -feature transmission process; and iii) that specified AGR finally identifies 'pro'.

In Chapter 5, it is argued i) that subjects are generated inside of VP (Koopman and Sportiche 1988, 1991; Kuroda 1988); ii) that INFL, which was formerly assumed to carry mixed features such as AGR and TENSE, consists of two separate functional categories such as AGR-P and T(ense)-P (Pollock 1989); and that language variation to a large extent is determined by functional categories. Specifically, I adopt Ouhalla's (1991) claim that functional categories such as AGR-P, TP, and NEG-P are the 'flesh and blood' of grammar and that these functional categories are existent universally. In addition, Chomsky's (1992) Minimalist Program has been introduced as a theoretical model from which the theory of "null arguments" is developed. Based on this new model, pro licensing and identification processes are illustrated. Specifically, it is argued that there is no parametric variation on pro licensing, and that parametrization comes from the availability of

obtaining φ -features. AGR in Korean is not strong by itself, but becomes so when it obtains φ -features through φ -feature transmission.

In the second half of Chapter 5, it is claimed that there are three cases in which sentences with a null object are grammatical:

- (5) i. When there is no Dative Argument (DA) in the matrix sentence and the sentence does not trigger logophoric reading, the null object can be best categorized as a variable or null epithet (Huang, 1991).
- ii. When there is no DA in the matrix sentence and the sentence triggers a logophoric reading, the null object can be classified as an empty logophoric pronoun, i.e., as an empty counter part of logophoric caki in Korean.
- iii. When there is a DA in the matrix sentence, the null object can be classified as pro.

To facilitate the analysis, I note the following: i) object-verb agreement is visible in Korean honorifics; ii) Korean honorific markers are sensitive to both nominative arguments and DAs; iii) the agreement system in honorifics provides a parsing strategy of ordinary expressions in Korean which lack visible morphological agreement; iv) the referential interpretation may be controlled by the mood markers, which indicates that [+/-AGR] specification on the mood markers is also available in Korean.

I adopt Georgopoulos' (1991) analysis of A-agreement and pro-Movement analysis (Moon, 1991) to account for the identification process of pro object in Korean. I claim i) that a dative argument in [Spec, VP] triggers verb-object agreement (VOA) in Korean; and ii) that AGR_o triggered by i) in turn licenses and identifies object pro through pro Movement at LF.

In Chapter 6, Topicalized NP structures in Korean are examined to show i) that the topic position is not an A'-position as argued by Huang but an A-position; ii) that topicalization is a result of Spec-Head agreement. First, previous proposals on topicalization are reviewed to display the basic

properties of topic NP in Korean. Second, it is pointed out that some problems exist with the Null Operator/ WH Analysis, Left Dislocation Analysis, and A'-Scrambling Analysis of Korean Topicalized NPs. Third, Korean topicalization is explained in terms of A-Scrambling triggered by Spec-Head agreement. During the process, it is argued that the non-extractability of NP from a relative clause is a natural consequence of Spec-Head agreement and that in the Kyungsang dialect, the Spec-Head agreement phenomenon in Wh-Question is also observable. Ultimately, it will be argued that there are two kinds of Topic NP constructions: base-generated Topic NPs and topicalized/ moved Topic NP, and that they should be licensed by the mood markers in Korean.

In Chapter 7, I review the results of the investigation, reiterating some problems with previous proposals on pro-drop parameter and justifying a new analysis which remedies the problems. In doing so, I support Chomsky (1992) and Georgopoulos (1991). Building on the enriched INFL hypothesis (Chomsky 1989), I suggest: i) the Korean [+pronominal] agreement system is visible in honorifics; ii) [+pronominal] AGR becomes [+strong] when it attracts φ -features from a commanding argument; iii) [+strong] AGR finally licenses and identifies pro in Korean; iv) the pro-drop parameter can be reduced to a single statement: pro must be licensed and identified by [+strong] AGR (i.e., AGR_h and AGR_o).

CHAPTER 2 ON "NULL ARGUMENT"

2.1. Definition of "Null Argument"

2.1.1. Argument vs. Adjunct

A primary concern of this section is the nature of arguments and adjuncts. Logicians have long been concerned with formulating representations for the semantic structure of sentences. In the notation of formal logic, (1a) is assigned the representation (1b):

(1) a. John saw Mary.

b. $S(j, m)$

where S ='saw', j ='John', and m ='Mary'.

In (1a), two referring expressions and a predicate are found. The referring expressions serve to pick out an entity, a person, a thing from the universe of discourse. The predicate does not refer to a person or thing but rather defines some relation between the referring expressions. In terms of logic, it can be said that the predicate 'saw' takes two ARGUMENTS. Predicates which require two arguments, such as transitive verbs, are called two-place predicates in logic. Intransitive verbs and adjectives which take only one argument are called one-place predicates. In the Principles and Parameters Approach (Chomsky 1981, 1986, 1989, 1992), it is assumed that every predicate has its argument structure which specifies the participants minimally involved in the activity or state expressed by the predicate. Instead of using some labels such as transitive,

intransitive and ditransitive, I will assume that the arguments the verb takes are represented by Arabic numerals:

- (2) a. see: verb; 1 2 meet: verb; 1 2
 NP NP NP NP
- b. smile: verb; 1
 NP
- c. give: verb; 1 2 3
 NP NP NP
 NP NP PP

An important property of the arguments is to carry semantic roles (θ -roles) which are a part of the lexical property of a verb.¹ In (2), the number and the type of thematic roles are ultimately derived from the meaning of the verb.

An optional element in a sentence is called an ADJUNCT. An adjunct does not receive a theta role from the verb, so the theta role of the NP contained in it must come from another source. It is commonly perceived that the particle itself is the source of the theta role of an adjunct in Korean.

- (3) a. John-i hakkyo-esu Mary-lul mana-ss-ta.
 Nom school-at Acc meet-Past-Decl.

'John met Mary at school.'

- b. John-i Mary-lul mana-ss-ta.
 Nom Acc meet-Past-Decl.

'John met Mary.'

- c. * Hakkyo-esu Mary-lul mana-ss-ta.
 school-at Acc met

- d. * Mary-lul mana-ss-ta.
 Acc met

¹ Theta-roles are pretty dependent upon the lexical property of the verb in use. For example, both 'see' and 'meet' may be considered as two-place predicates, the subject of 'see' takes an experiencer theta-role while the subject of 'meet' gets an agent theta-role.

As the examples in (3) illustrate, PP hakkyo-esu is an adjunct. Thus, deleting an adjunct from (3a) has not resulted in the ungrammaticality of the sentence as it is shown in (3b). Deleting an argument, i.e., deleting the subject in this case, however, has resulted in the ungrammaticality of the sentences in (3c) and (3d).

Throughout this study I will use "ARGUMENT" as a cover term representing the predicate participants minimally required in the activity or state expressed by the predicate, which means that I will limit the focus of attention to the elementary elements in the sentence. The optional elements, i.e., the adjuncts, are not a major concern in this study.

2.1.2. Typology of "Null Arguments"

Broadly speaking, there are two types of null arguments in Korean; pro and PRO. A common property of these null arguments is that they are generated at D-structure and that they do not form a movement chain with an antecedent although they may move at LF (see Chapter 5 for pro-movement). PRO and pro are different in that PRO never appears in a governed position, i.e., it only appears in an untensed clause, while pro only appears in a governed position, i.e., in a tensed clause, in Korean. PRO exists in all languages while pro shows a limited distribution in that pro does not appear in non-null subject languages such as English, Dutch A, modern French, and Swedish (see Gilligan 1987:398 for typological classification). ²

² Chapter 5 in this study will discuss the possibility of having a unified licensing and identifying mechanism for both PRO and pro.

2.2. Motivation for the Existence of Parameters

2.2.1. Linguistic Variation and Universal Grammar

Standard Parameter Theory is based on Chomsky's conceptualization (Lectures on Government and Binding, 1981). He assumes that Universal Grammar (henceforth, UG) is the system of principles, conditions, and rules that are elements or properties of all human languages. From this perspective, variation among languages can be accounted for by the existence of PARAMETERS, a set of language specific options expressed as postulates that interact with universal principles to form the grammars of particular languages. By the same token, a child may succeed in language acquisition because it is innately provided not only with a set of universal principles of grammar (henceforth, UPGs) but also a set of parameters that provide grammatical options that result in significant linguistic variation. These relations can be characterized in the following diagram.

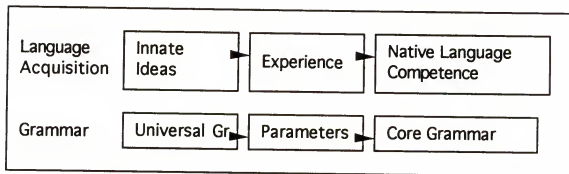
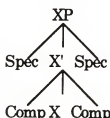


FIGURE 1 : Position of Parameters in GB

In Standard Theory (ST)³ and Extended Standard Theory (EST)⁴, there are many highly specific rules and constraints on rules. It would seem almost impossible for a child to remember all those rules. Thus, it poses a learnability problem. If we assume children learn a language by remembering all the transformational rules that have been posited in the ST and EST models, it is practically impossible for them to learn all those rules within a small amount of time. Hence, the evolution from the framework of EST to Revised Extended Standard Theory (or the syntactic theory depicted in Lectures on Government and Binding, or LGB) is very natural. In the LGB framework, transformations are reduced to a single general rule: MOVE ALPHA. In the LGB model, derived nominals, which were formerly generated by transformation in the ST model, are generated by Phrase Structure rules (PS rules). PS rules are reduced to a very simple X' schema which accounts for hierarchical relations and headedness of structures with a few primitives like LEXICAL HEAD PROJECTION and Specifier. In the most canonical situation, XP subcategorizes a Specifier and X-bar (X') further subcategorizes X and a Complement. Note the following:

(4)



³. The Standard Theory here refers to the syntactic theory depicted in Chomsky's (1965) Aspects of Theory of Syntax.

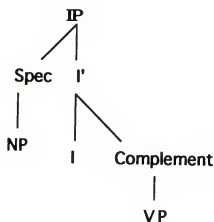
⁴. The Extended Standard Theory is assumed from Chomsky's (1970) earlier article 'Remarks on Nominalization'. Normally, syntactic explanations between Chomsky (1970) and Chomsky's (1981) Lectures on Government and Binding assume this model.

Diagram (4) signifies the following things: First, PS rules cannot include an ad hoc rule like the following.

(5) $S \rightarrow NP VP$

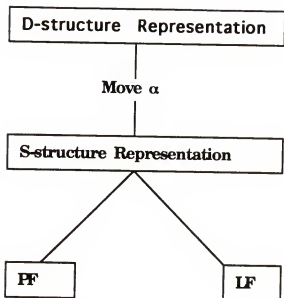
Rule (5) should be replaced by a rule which conforms to the X'-schema. Thus, Chomsky (1986) proposed that what was formerly known as S needs to be replaced by IP, and that the subject NP is actually a Specifier of IP and the VP is a Complement of I(nflection). It can be shown as follows:

(6)



Second, the X'-schema allows the freedom of directionality of the Specifiers and the Complements. For example, in languages like English, a lexical head X puts its complement on its right hand side while in languages like Korean and Japanese, a lexical head X puts its complement on its left. Thus, there is no predetermined rule for the place of Complements and Specifiers. Chomsky's (1981) PROJECTION PRINCIPLE requires that lexical properties, such as complementation and the assignment of thematic roles, must be achieved at every syntactic level (D-structure, S-structure, and LF):

(7)



Here D-structure means a syntactic structure at which some movement rules may apply. S-structure refers to a syntactic representation when one or more syntactic movement rules are applied to the D-structure representation. If no movement rule has been applied to a D-structure representation, the D-structure and S-structure representations are the same. LF stands for Logical Form which involves quantifier raising and the interpretation of the scope of the polarity items such as negative morphemes.

One of the greatest advantages of this model is that children do not need to learn many individual transformational rules. Since rules are reduced to one general rule, the learnability problem is minimized. Actually, children are required to learn parameters which enable them to master their own language.

2.2.2. Extended Projection Principle

The Extended Projection Principle proposed by Chomsky (1981) aims to explain the existence of nonthematic subjects in English and many other languages. Let's compare the following examples:

- (8) a. Parece que Juan está enfermo
 seems that John is sick
 b. Existen varias soluciones
 exist several solutions
 There exist several solutions.

In Spanish, overt lexical subjects are impossible while the equivalents of English require the nonthematic subjects in (8a) and (8b). This phenomenon cannot be explained with the original Projection Principle:

- (9) Projection Principle:
 The Theta Criterion holds at every syntactic level.

- (10) Theta Criterion:

- a. Every syntactic argument must be assigned a unique theta role
 b. Every theta role must be assigned a unique syntactic argument

Since an English nonthematic subject is not an argument, it does not need to observe the Theta Criterion. For this reason Chomsky (1981) proposed what has come to be known as the EXTENDED PROJECTION PRINCIPLE.

- (11) Extended Projection Principle
 Every S must have an [NP, S], i.e. a structural subject.

With the help of the Extended Projection Principle (11) we can explain the English dummy subject. However, there is another problem that has to be solved here. For example, the claim that every sentence must have a subject wrongly predicts that the Spanish sentences in (8) are ungrammatical. Thus, the question of why Spanish sentences are good where the English equivalents are ungrammatical needs to be answered. This kind of question leads us to the question of the types of Empty Categories (i.e., phonologically null nominal elements).

2.3. Licensing Empty Categories

If null elements or empty categories are an actual component of the grammar of natural languages, it must be the case that the language learner has the ability to posit such null elements in the representations he assigns to sentences. In other words, there must be a justification in positing the empty categories and ways of identifying them. For example, overt NPs must be assigned abstract case (Formal Licensing). By the same token, the learner must know and the grammar must signify i) in what conditions these empty categories can occur, i.e., LICENSING, and ii) how they can be interpreted or how they can be given semantic content, i.e., IDENTIFICATION.⁵ The LICENSING and IDENTIFICATION CONDITION are required for empty category to be properly governed.

2.3.1. The ECP as a Formal Licensing Device

In Government and Binding (GB) theory, proper government has been proposed as the formal licensing condition for NP-traces and WH-traces. Proper government can be achieved in two ways : theta-government and antecedent-government. A head theta-governs a constituent if it both governs and theta-marks the constituent. Antecedent-government is achieved when a trace is governed by a co-indexed maximal projection. The licensing condition that traces must be properly governed is known as the empty category principle :

⁵ I assume that HEAD GOVERNMENT is FORMAL LICENSING CONDITION for nonpronominal empty categories, and that CASE GOVERNMENT is a FORMAL LICENSING CONDITION for pronominal empty categories. As for the IDENTIFICATION, I assume that \uparrow -government or antecedent government is an IDENTIFICATION CONDITION for nonpronominal empty categories, and that co-indexing is an IDENTIFICATION CONDITION for pronominal empty categories. See Jaeggli (1987) for details.

(12) Empty Category Principle : ECP (Chomsky 1986 : 17)

Traces must be properly governed.

A properly governs B iff A theta-governs or antecedent- governs B.

i) A theta-governs B iff A governs B and A theta -marks B.

ii) A antecedent-governs B iff A governs B and A is coindexed with B

The notion of 'government', which refers to a particular syntactic relationship of high abstraction between a 'governor' and an element that it governs, is defined as follows:

(13) Government

A governs B iff

(i) A is a governor ;

(ii) A m-commands B;

(iii) no barrier intervenes between A and B;

(iv) minimality is respected.

where governors are (i) heads and (ii) co-indexed XPs.

(14) Minimality

A governs B iff there is no node Z such that

(i) Z is a potential governor for B;

(ii) Z m-commands B;

(iii) Z does not m-command A

With this formation of the ECP, what was formerly known as that-t filter can be explained in a systematic way.

- (15) a. *who do you think [that[t will invite John?]]
 b. who do you think [[t will invite John?]]

In (15a) and (15b) the subject trace is governed by INFL, from which it will receive nominative case. However, the trace is not theta-governed by INFL since it is not INFL but the verb invite that assigns an external theta role to the subject of the lower clause. ⁶

⁶ It has been argued that Null Subject Languages (NSLs) do not show that-t effect, which reflects that Infl of the NSLs is a proper governor. See Aoun (1985, 1986), Borer (1983), Chomsky (1981), and Rizzi (1990) for details.

2.3.2. PRO Theorem as a Formal Licensing Device

According to Chomsky (1981, 1982), there exists PRO, a null element with the feature combination [+anaphor, +pronominal]. i) Unlike traces, PRO need not have an antecedent. ii) Unlike non-pronominal empty categories, i.e., traces, the ECP cannot be a formal licensing device. For example, PRO in (16) is not properly governed, yet the sentence is grammatical.

(16) John believes [_{CP}1 that [_{IP}1 [_{CP}2 [_{IP}2 PRO to invite Bill]] would be a mistake]].

Between the antecedent John and PRO in (16) there are two IP nodes, marked as IP₁ and IP₂. In (18) below, the position located by PRO not only violates subadjacency but also violates the ECP if one assumes that PRO is licensed by the movement of John. PRO is not properly governed since non-finite INFL can never be a governor and the antecedent-government is also blocked by that. This is why Chomsky (1982, 1986a) resorts to the PRO Theorem.⁷

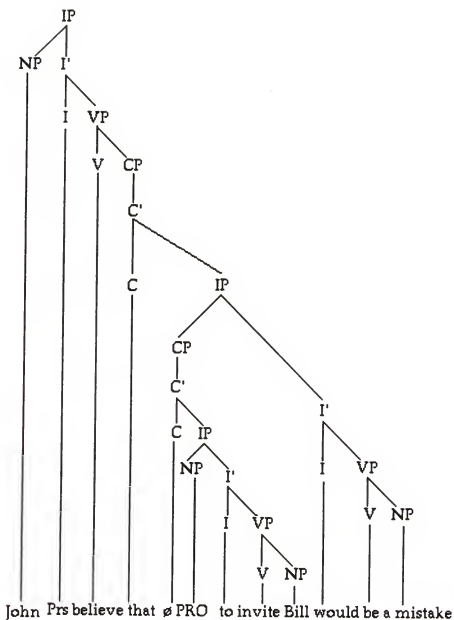
(17) PRO Theorem :

PRO is ungoverned (KOL; 183)⁸

7. Chomsky and Lasnik (1991) abandoned this PRO theorem. The current study also advocates the claim that PRO may be Case-governed in Korean. In the later chapter, I indicated that Borer's proposal is well-motivated for PRO identification in Korean.

8. KOL refers to Chomsky's (1986a) Knowledge of Language.

(18)



Consequently PRO can never appear in Case-governed position. Since there is no governor for PRO, it could never have a governing category for binding theory. Thus, the reference of PRO is determined not by Binding Theory but by Control Theory, which determines the potential reference of the abstract pronominal element PRO. In other words, it can be said that PRO is licensed by the PRO theorem and identified by the Control theory.

2.3.3. Licensing *pro*

So far three types of empty categories have been discussed in this chapter. Yet another type of empty category has been observed by Chomsky (1982).

Chomsky classifies all types of arguments in the following way :

(19) Classification of NPs

Type	Overt	Non-overt
[+anaphor,-pronominal]	anaphors	NP-trace
[-anaphor,+pronominal]	pronouns	?
[-anaphor,-pronominal]	R-expressions	wh-trace
[+anaphor,+pronominal]	--	PRO

Chomsky's classification of NPs rests on two features [+/- anaphor] and [+/- pronominal], allowing a total of four combinations. For overt NPs only three of the four combinations are realized because of the conflicting characteristics of the two features, i.e., [+/- anaphor] and [+/- pronominal]. For non-overt NPs all four combinations are available. In the case of a non-overt [-anaphor, +pronominal], which is equivalent to lexical (phonologically realized) pronouns, consider the following sentences from Italian:

- (20)a. Giacomo ha parlato
 Giacomo has spoken
- b. e ha parlato
 has spoken

In (20a) parlare assigns an external theta role to Giacomo. By the same token, it may be assumed that the verb parlare assigns an external theta-role to the empty category. On the basis of the EPP, it may be postulated that there is a subject position, [NP,IP], in all sentences. Thus, the projected subject position of ha parlato in (20b) is an NP-position which is not phonetically realized and to which the external theta role of the verb is assigned. It can thus be postulated that the [NP, IP]-position is occupied by pro. It seems to be very natural that we assume pro subject in cases like (20) since the verbal suffixes signal what type of

subject is missing. When we consider Korean data, it is very difficult to imagine that the same mechanism holds in Korean. One of the reasons why many proposals on 'Korean pro-Drop phenomenon' deviate from the standard analysis as in Italian and Spanish originates from this difficulty. The current study, however, strongly argues that there is no typological difference in the *pro* licensing and identification mechanism, which will be discussed in detail in Chapter 5.

CHAPTER 3 DISTRIBUTION of pro IN KOREAN

There is no question about whether Korean allows traces and variables. However, there are many proposals which are not compatible with each other on the issue of assuming pronominal ECs such as PRO and pro. Yang (1982) and Moon (1987) assume pro in both subject and object positions while they do not allow the Subject-Object asymmetry in Korean. Kim (1988) assumes zero-topic for the Subject EC and pro for the Object EC while she acknowledges the Subject-Object asymmetry. Lee (1987) also assumes the Subject-Object asymmetry and his analysis of the Korean null subject phenomenon is very similar to Huang's (1984, 1987) analysis of Chinese allowing pro and PRO for subject ECs, but Lee's claim differs from Huang's in that his theory allows pro in object position. These various claims are summarized in the following table:

	Subject ECs	Object ECs	Subj.-Obj. Asymmetry
Yang(1982)	<u>pro</u>	<u>pro</u>	No
Moon(1987)	<u>pro</u>	<u>pro</u>	No
Kim(1988)	zero-topic	<u>pro</u>	Yes
Lee(1987)	<u>pro</u> / PRO	<u>pro</u>	Yes

As we can see in this table, there is one agreement: Everyone acknowledges pro in Korean. In the subsequent subsections, I will address the questions stated below:

- i) Does Korean allow PRO?
- ii) What kinds of 'null arguments' are observed in Korean?
- iii) Where are the 'null arguments' in Korean sentences observed?
- iii) What is a possible explanation for 'pro' licensing?
- ii) Does the Subject-Object Asymmetry exist in Korean?

In the following sections, I will consider these questions one by one.

3.1. Licensing PRO in Korean

In order to solve this question, we need to look at Yang (1982), which points out two reasons to argue that there is no distinction between pro and PRO in Korean. First, he argues that sentence (1) can be substituted by (2) without meaning change.

- (1) John-i Billi-eke [e_i Mary-lil mana-tolok] seltukha-ess-ta.
 Nom Dat Acc meet COMP persuade-PAST
 'John persuaded Bill to meet Mary.'
- (2) John-i Billi-eke [ku_i-ka Mary-lil mana-tolok] seltukha-ess-ta
 Nom Dat he-Nom Mary-Acc meet COMP persuade-Past
 'John persuade Bill (that) he (to) meet Mary.'

Second, he claims that the difference in control property is largely due to the semantics of the matrix verb seltukha 'persuade'. One of the crucial drawbacks of his argument is the assumption that the Korean equivalent of the English control verb 'persuade' must have the same binding properties as its English counterpart. Xu (1987) coincides with Yang in that there is no empty category like PRO.

Criticizing Xu's Free Empty Category analysis, Huang (1987) points out that the ECs in (3) and (4) are pro even though the English translation contains PRO.

- (3) Zhangsan jueding [e mingtin huijia]
 decide tomorrow go-home
 'Zhangsan decided to go home tomorrow.'
- (4) Zhangsan daying wo [e mingtin keyi lai]
 promised me tomorrow can come
 'Zhangsan promised me to come tomorrow.'

His argument is substantiated by the following examples in which ECs are substituted by a lexical pronoun.

- (3') Zhangsan jueding [women mingtin huijia]
 decide we tomorrow go-home
 'Zhangsan decided that we (should) go home tomorrow.'

- (4') Zhangsan daying wo [Lisi mingtin keyi lai]
 promised me tomorrow can come
 'Zhangsan promised me that Lisi may come tomorrow.'

As Yang argues, one can easily assume that EC in (1) is pro, based on the substitutability of EC with a lexical pronoun. On the other hand, the linguistic fact that an EC with a typical control structure is identified as pro does not necessarily lead to the conclusion that there is no PRO in Korean. If one can find an EC that contains precisely the properties of PRO in other cases, he must admit the existence of PRO in Korean. Huang (1987) suggests some obligatory control verbs in Chinese such as shefa 'try', xiang 'wish', bi 'force', yaoqui 'request', mingling 'order', qing 'request', shi 'cause', par 'send', and jiao 'tell'. These control verbs and some Equi verbs like yao 'want', xihuan 'like', taoyan 'hate' contain PRO. There are some Korean equivalents for these Chinese obligatory control verbs. It may be useful for us to find some Korean obligatory control verbs because there are many Sino-Korean words (Chinese-borrowed Korean words) and they have roughly the same meaning and same syntactic properties although one cannot expect the same prediction always.

- | | | | |
|-----|----------|----------------|---------|
| (5) | Chinese | Korean | Gloss |
| | shefa | (sito)-hata | try |
| | xiang | himanghata | wish |
| | yaoqui | yokuhata | request |
| | mingling | myunglyunghata | order |
| | qing | chunghata | request |

Some Korean sentences with these verbs are given in (6) and the examples which follow.

- (6) a. John-i Mary-lul keptalharyu-ko (sito)-hayssta.
 Nom Acc rape Comp tried
 'John tried to rape Mary.'
 b. John-i_i [e_i Mary-lul keptalharyu-ko](sito)-hayssta.

Sentence (6a) allows only the interpretation given in (6b) and the EC in (6b) cannot be substituted by an overt pronoun ku. Consider the following sentence:

- (7) *John-i [ku-ka Mary-lul keptalharyu-ko](sito)-hayssta.
 Nom he-Nom Acc rape Comp tried
 'John tried to rape Mary.'

Under normal circumstances, (7) is not a grammatical sentence, but some may say it is grammatical only when there is a pause between John-i and ku-ka which makes one interpret John-i as the topic of the sentence but not the subject.¹

Now, let's look at an example of an object control verb.

- (8) John-i Bill-eke Mary-lul cabura-ko myunglyunghayssta
 Nom Dat Acc catch Comp ordered
 'John ordered Bill to catch Mary.'
 (9) John-i Bill_i-eke [e_i Mary-lul cabula-ko] myunglyunghayssta
 Nom. Dat. Acc catch Comp ordered
 'John ordered Bill to catch Mary.'

The EC in (9) must be PRO and not pro because the lexical pronoun ku cannot replace the position of the EC. Actually, the EC with all verbs listed in (5) is PRO.²

¹. Sentence (7) becomes grammatical only when the overt pronoun ku is coreferential with John, which reflects that ku is not free in its local domain.

². When we use a noncontrol verb in the same context as (9), we get the opposite result in Korean:

John-i Bill-eke [EC/ku-ka Mary-lul chasassta-ko] malhayssta.
 John-Nom Bill-to Nom Mary-Acc found-Comp said
 'John told Bill that \emptyset /he found Mary.'

3.2. "Null Arguments" in Subject Position

3.2.1. Distribution of "Null Thematic Subjects"

"Null Thematic Subjects" are found in the following cases in Korean:

- (10) a. pro came
 b. pro saw Mary.
 c. John said that pro saw Bill.
 d. John advocates the claim that pro made the mistake.
 e. John told Mary that pro liked Kathy.
 f. John asked Mary if pro liked Kathy.

Examples (10a) and (10b) illustrate that pro in matrix subject position is available in Korean. There is, however, a severe restriction on having pro in these cases in that the sentences may be counted as grammatical only if they are preceded by a previous discourse such as the following:

(11) [Korean]

- a. John-i o-ass-ni ?
 Nom come-Past-Q
 'Did John come?'
 b. John-i nwukwu-lul po-ass-ni ?
 Nom who-Acc see-Past-Q
 'Who did John see?'

Without the context provided by (11a) and (11b) in discourse, sentences (10a) and (10b) would be ruled out. In Moon (1989, 1991), this type of EC is assumed to be pro. If we follow Huang's analysis, however, they cannot be pro because they are bound by a null topic which is located in A'-position: ³

³. Huang (1982, 1984, 1987, 1989) assumes that topic phrases are located in an adjoined position, i.e., an A'-position. The current study, however, claims that the position occupied by topic NPs are not A'-position but A-position in Korean.

- (12) a. [TOP O_i] EC_i came.
 b. [TOP O_i] EC_i saw Mary.

There is another possibility of construing the EC's in (10a) and (10b) as pro, which, I assume, is the case. Note the following:

- (13) a. [IP [TOP EC_i] pro_i came].
 b. [IP [TOP EC_i] pro_i saw Mary].

The underlying assumption in this analysis is that topic NPs are not generated in A'-position, which is contradictory to Chomsky's (1981) original proposal.⁴ Returning to the main issue, (10c) and (10d) have not been questioned on the status of pro (Huang 1984, 1987, 1989; Lee H-B 1987). The cases in (10e) and (10f) have been discussed by Rizzi (1986) for Italian; but have not been adequately treated for Korean data, however. Let's take some examples from Korean:

(14) [Korean]

- a. John-i Mary-eke [[pro Kathy-lul salanghan-ta] ko] hayssta.
 Nom Dat Acc love Comp said
 'John told Mary that (he) loves Kathy.'
 b. John-i Mary-eke [[pro Kathy-lul salangha-nya] ko] hayssta.
 Nom Dat Acc love Comp said
 'John asked Mary if (she) loves Kathy.'

As sentences (14a) and (14b) illustrate, pro in the embedded subject position may take either the matrix subject John or the dative argument Mary. I presume the difference between the two sentences lies only in the form of SE (Sentence End) markers. In case of (14a), the declarative SE marker -ta is used, whereas in the case of (14b), the interrogative SE marker -nya is used. Anyhow, the embedded subjects in both (14a) and (14b) need to be identified as pro. It cannot be an NP-trace because it is in theta and Case position and the coreferential elements John

⁴ I assume that topic phrases both lexical and null are located in the SPEC of M(ood) Phrase, an A-position. For detailed explanation of this, please go to Chapter 6 in which four alternative analyses on topic XP are found.

in (14a) and Mary in (14b) are in the theta position as well as the Case position. Thus, assuming the EC as NP-t is out. How about assuming the ECs as wh-trace? It is not possible, because the antecedents are not in A'-position. Notice that subject and dative object positions can never be in A'-position. The option that we can assume it is PRO is also rejected because the ECs are in a governed position, i.e., in subject position of the tensed clauses. Now we can safely assume that pro is observable in all the possible subject positions in Korean.

3.2.2. Nonexistence of "Null Nonthematic Subjects"

It seems to be obvious that there are no pronoun equivalent to the English it or there in Korean. Thus, when a Korean wants to express 'it is raining', it may be said as follows:

(15) [Korean]

Pi-ka	o-koiss-ta.
rain-Nom	come-ING-Decl.
'It is raining.'	

Similarly, an expression like 'there is no one who helps us' may be expressed in the following way:

(16) [Korean]

[EC _i	wuli-lul	towacunun]	salam _i -i/-un	epsta.
	we-Acc	help	man-Nom/-Top	none
'There is no one who helps us.'				

As we observe in (15) and (16), constructions which normally require dummy or expletive subjects in English-type languages tend to have a sentence which carries a thematic subject in Korean. Thus, it is unnatural to assume "null nonthematic subjects" in Korean. ⁵

⁵ . Another piece of evidence that there is no "null nonthematic subject" comes from language acquisition. Cha (1983, 88) notes that many Korean students learning English tend to make expletive lacking sentences:

(1) (The) Last winter wasn't very cold.

In sum, null pronominal subjects are available both in matrix clauses and in embedded clauses in Korean. In the former case, pro is bound by a discourse topic, which provides the φ -features of pro. When I use the word "discourse topic", it is always meant to refer to a grammatical topic already introduced in the previous discourse. Shibatani (1990) points out that the grammatical topic does not necessarily indicate a discourse topic or vice versa. For example, an event is introduced as something that is newly perceived, there would be no grammatical topic in the sentence. In the latter case, pro is bound by a c-commanding lexical NP, which controls the pro. In the following section, it is argued that three types of null pronominal objects are observed in Korean.

3.3. "Null Argument" in Object Position

3.3.1. Discourse Bound "Null Objects"

Korean tends to delete both direct objects and indirect objects (dative argument in a technical sense) in a casual discourse setting. Since the speaker

He explains the reason of using this type sentence by Korean students as follows:

" -- although (1) is both grammatically correct (except for the use of 'the') and acceptable in English, the reason why some learners used this particular word order is worth discussing in terms of CA (Contrastive Analysis). -- Since there are no expletives in Korean, Korean learners of English tend to use 'last winter' as subject following their native language pattern --"

There are some more examples from Cha (1983).

- (2) a. * How far is your school from here?
(How far is it from here to your school?)
b. * I'm glad to see you again.
(It's nice to see you again.)
c. * Why \emptyset so difficult to learn English?
(Why is it difficult to learn English?)

Based on the linguistic facts, I will assume that there are no "null or phonologically realized nonthematic subjects" in Korean.

and the listener share the knowledge of the information on the unuttered arguments, there is little or no confusion about the referential indices of the null arguments. Here are some examples of null pronominal objects in Korean:

- (17) John saw pro.
 (18) John gave pro a book
 (19) John said that Mary saw pro.

There are three structural possibilities of having pro coindexed with a discourse topic in Korean. As in the case of "null subjects," discourse bound null objects may be identified as pro if the proper background discourse is given in Korean.

(20) [Korean]

- a. Nwuku-ka Mary-lul poassni ?
 who-Nom Mary-Acc saw
 'Who saw Mary?'
 b. John-i pro poassta.
 John-Nom saw
 'John pro saw.'

(21) [Korean]

- a. John-i Mary-eke mwues-ul cwuessni ?
 John-Nom Mary-Dat what-Acc gave
 'What did John gave to Mary?'
 b. John-i pro chayk-ul cwuessta.
 John-Nom (a) book gave
 'John gave pro a book.'

(22) [Korean]

- a. John-i [Nwu-ka Tom-ul poassta-ko] malhayssni ?
 John-Nom who-Nom Tom-Acc saw-Comp said
 'Who did John say that saw Tom?'
 b. John-i [Mary-ka pro poassta-ko] malhayssta.
 John-Nom Mary-Nom saw-Comp said
 'John said that Mary saw pro.'

Moon (1989 and 1991) argues that ECs in these positions are pros. Huang (1984), however, argues that they are not pros but empty variable objects. I will deal with this issue again in a subsequent chapter.

3.3.2. pro_{arb}

Rizzi (1986) argues that Italian exhibits null pronominal objects which get arbitrary reference:

- (23) a. Questo conduce (la gente) alla sequente conclusione.
 b. This leads (people) to the following conclusion.
- (24) a. Gianni é sempre pronto ad accontentare (la gente).
 b. John is always ready to please (people).

He claims that the missing objects are structurally realized as a phonetically null element in Italian, and that the object is missing in the more radical sense of a total absence of structure in English. I argue that Korean is an Italian-type language in this respect for the following reasons. First, as in Italian, Korean data do not conform to Bach's Generalization, which states that a direct object controller cannot be omitted. Note the following examples:

- (25) a. ikus-i salamtul-eke taum kyullon-ul tochulhakehanta.
 This-Nom people-Dat following conclusion leads
 'This leads people to the following conclusion.' [Korean]
 b. Questo conduce la gente alla sequente conclusione. [Italian]
 c. This leads people to the following conclusion.' [English]
- (26) a. ikus-i _____ taum kyullon-ul tochulhakehanta.
 This-Nom _____ following conclusion leads
 'This leads to the following conclusion.' [Korean]
 b. Questo conduce _____ alla sequente conclusione. [Italian]
 c. This leads to the following conclusion. [English]
- (27) a. ikus-i salamtul-eke [PRO taum-ul kyulcenghake] hanta.
 this-Nom people-Dat what follows conclude leads
 'This leads people [PRO to conclude what follows]. [Korean]
 b. Questo conduce la gente a [PRO conducere quanto segue]. [Italian]
 c. This leads people [PRO to conclude what follows]. [English]
- (28) a. ikus-i _____ [PRO taum-ul kyulcenghake] hanta. [Korean]
 this-Nom _____ what follows conclude leads
 'This leads [PRO to conclude what follows].' (Korean)
 b. Questo conduce _____ a [PRO conducere quanto segue]. [Italian]
 c. * This leads [PRO to conclude what follows]. [English]

The data from the three different languages can be interpreted as follows. In the examples in (25) and (26), there is no difference among the languages under

consideration. The controlling object can be deleted in all three languages as indicated in (26). In the examples of (28), however, omitting a direct object controller cause an ungrammatical sentence in English as in (28c), while it does not affect the grammaticality of the Korean and Italian examples as in (28a) and (28b). Second, as in Italian, the understood object with arbitrary interpretation can be the antecedent of an anaphor in Korean.

- (29) a. La buona musica riconcilia ___ con se stessi. [Italian]
 good music reconciles with oneself
 b. cohun umak-i ___ wuli-hul hwahaysikinta. [Korean]
 good music-Nom we-Acc reconcile

'Good music reconciles (us to ourselves).'

As the Korean example shows, wuli 'us' takes plural antecedents ___ in Korean, which provides a piece of evidence that the null element is there. Third, the understood object may be modified by an adjunct small clause in Korean:

- (30) a. Un dottore serio visita ___ nudi. [Italian]
 a doctor serious visits ___ nude ([+pl])
 b. han michin eysa-ka ___ peskinchay pangmunhayessta. [Korean]
 a lunatic doctor-Nom nude visited

'A lunatic doctor visited in the nude.'

Finally, argument small clauses selected by causative verbs in Korean can take null subjects having exactly the same interpretation and formal properties as the null objects:

- (31) a. Questa musica rende [allegri] [Italian]
 this music renders ___ happy ([+pl])
 b. i umak-i [___ hayngpokhake] haycwunta. [Korean]
 this music-Nom happy renders

'This music renders happy.'

Based on the observations above, I argue that Korean shares the property of containing pro_{arb} with Italian. In a subsequent section, specifically 4.2.2., I will discuss licensing and identification mechanisms in this type of pro.

3.3.3. Argument Bound "Null Objects"

Huang (1984) observes that null objects in Chinese are A'-bound variables and claims that null objects obey Principle C of Chomsky's Binding Theory.

(32) [Chinese]

[e_j] _{TOP} Zhangsan_i shuo [Lisi bu renshi e*_{i/j}].
 say not know
 'Zhangsan said that Lisi does not know [him].'

(33) [Chinese]

Zhangsan_i shuo [Lisi bu renshi ta i_j]
 say not know him
 'Zhangsan said that Lisi does not know him.'

(34) [Chinese]

[0_j] Zhangsan_i shuo [e_{i/j} bu renshi Lisi]
 say not know
 'Zhangsan said that [he] does not know Lisi.'

(35) [Chinese]

[0_j] Zhangsan_i shuo [ta_{i/j} bu renshi Lisi]
 say he not know
 'Zhangsan said that he does not know Lisi.'

As we can observe in (32) and (33), the object EC cannot be bound by the subject NP, Zhangsan, while the pronoun can. This fact is contrasted with the examples in (34) and (35) where the subject EC and pronoun can be bound either by a c-commanding NP or by a null operator. Based on this subject-object asymmetry of the ECs in binding properties, Huang claims the following:

- (36) Chinese ECs a) Subject EC : pro
 b) Object EC : variable

Hasegawa (1984) also observes the subject-object asymmetry in Japanese:

(37) [Japanese]

a. John_i-ga [e_i_j Mary-o nagutta to] itta.
 Nom Acc hit that said
 'John_i said that he_i_j hit Mary.'

b. John_i-ga [Mary-ga e*_i_j nagutta to] itta
 Nom Nom hit that said
 'John_i said that Mary hit him*_i_j'

If an EC occurs in the subject position of the embedded sentence, it can refer either to the matrix subject or to a discourse topic, but if an EC occurs in the object position of the embedded sentence, coindexing the EC with the matrix subject John will cause the ungrammaticality of the sentence. In other words, if there is an EC in the object position, it should be a discourse topic. Moon (1989) and Lee H-B (1987) simply follow Huang's analysis for Korean null objects. There are, however, many counterexamples to the claims made by Moon and Lee H-B. Moon (1989) argues that there is subject-object asymmetry in Korean in that null pronominal object may not be construed with an argument in the matrix clause unless it is introduced as a discourse topic. Note the following:

(38) [Korean]

Tori₁-ka [[Swuni₂-ka e *_{1/3} poassta]ko] malhayssta.
 Tori-Nom Swuni-Nom saw Comp said
 'Tori₁ said that Swuni₂ saw e*_{1/3}.'

She claims that a pronominal element in object position may not be coreferential with the matrix subject Tori in the above example. The current study, however, argues against Moon (1989) by claiming that a pronominal EC in Korean can be coreferential with a matrix argument.⁶ As Cole (1987)

⁶. According to my personal survey on the issue of the grammaticality judgement on sentences like (38), 8 out of 10 people followed my decision, which strongly suggests that the current study is on the solid foundation.

points out, the object EC in Korean is *pro*. First, note the following data from Korean:

(39) [Korean]

- a. John_i-i [e_i/_j Mary-lul ttayry-ess-ta ko] malha-ess-ta.
 John-Nom Mary-Acc hit-past-decl comp say-past-decl
 'John_i said that he_i/_j hit Mary'
- b. John_i-i [Mary-ka e_i/_j ttayry-ess-ta ko] malha-ess-ta.
 John-Nom Mary-Nom hit Comp said
 'John_i said that Mary hit him_i/_j'

Contrary to the Chinese and Japanese examples, coindexing an object EC with the matrix subject 'John' is perfectly acceptable in Korean as in (39b). Notice that, according to Moon's analysis, (39b) cannot be grammatical with the null direct object coindexed with 'John', unless there is a null topic bound by a previous instance of 'John' in the discourse. Let's look at Cole's example.

(40) [Korean]

- a. Chelswu_i-ka [Yenghi-ka e_j hyeppakha-ess-ta ko] cwucangha-ess-ta.
 Nom Nom threatened-decl comp claimed-decl
 'Chelswu claims that Yenghi threatened him'
- b. John_i-un [Bill-i e_j cenhwaha-ess-ta nun] sasil-ul acik morun-ta.
 Top Nom called -decl comp fact-Acc yet not-know-decl
 'John_i doesn't know the fact that Bill called e_j'

Since Korean object EC allows coindexing like this, two questions need to be answered: i) Is there any syntactic or semantic condition on this coindexation?; ii) How can an object EC coindexed with the matrix subject NP be explained in Chomsky's linguistic program? As for the second question, I will defer it to the subsequent section. As to the first question, I argue that there are two cases where an object EC may be coindexed with the matrix subject or with a dative argument. First, it can be coindexed with the matrix subject if the sentence contains a logophoric empty pronoun which is licensed by a set of predicates, what we call logophoric predicates (Kuno, 1987). A logophoric verb is defined

(42) [Korean]

a. John_i-i Mary-eke [Chulsoo-ka e_j saranghayss-um] ul cwucangha-ess-ta.
 Nom Dat Nom loved comp Acc claimed-decl
 'John claimed to Mary_j that Chulsoo loved her_j'

b. John_i-i Chulsoo-eke [Mary-ka e_j saranghayss-um] ul cwucanghayss-ta.
 Nom Dat Nom loved comp Acc claimed-decl
 'John_i claimed to Chulsoo_j that Mary loved him_j'

c. John_i-i Yenghi-eke [Mary-ka e_j saranghayss-um] cwucangha-ess-ta.
 Nom Dat Nom loved comp claimed-decl
 'John_i claimed to Yenghi that Mary loved him_j'

d. Sunja-ka Yenghi-eke [Mary_k-ka e_j saranghayss-um] ul
 Nom Dat Nom loved comp-Acc.
 cwucanghayss-ta.
 claimed-decl
 'Sunja_i claimed to Yenghi_j that Mary_k loved someone '

When there is a null argument in the complement clause, the reference of an EC may vary according to the context, i.e., the gender distinction of preceding NPs may cause the different interpretations as in (42). For example, if we look at (42a), the EC is coreferential with Mary, which is the only possible NP which can provide the required gender for the null argument. Since Chulsoo is a male name, the most natural interpretation of the EC should be coreferential with Mary, which is the only female name. In addition, if we look at (42b), the EC can refer either to John, the matrix subject, or Chulsoo, a dative object. Since both names are male names, any of them can be a proper antecedent of the EC. It is also interesting to see the binding phenomenon of (42c). Since the subject of embedded S is Mary, a female name, the null argument cannot refer to Yenghi, a female name, and John becomes a proper antecedent of the EC. An even more interesting phenomenon with this construction is in (42d) where the EC has no antecedent male NP and is simply understood as someone which carries [+male] feature. This observation may lead one to a quick conclusion that the null argument in the object position has a feature matrix

which includes [+/- male] feature. Farrell (1990) claims that 'object pro' can be specified [+ 3rd person]. However, the Korean data do not seem to allow this feature specification because Korean shows several other instances as follows:

(43) [Korean]

- a. Mary-ka Nai-eke [Yenghi-ka e_i saranghayss-um]-ul cwucangha-ess-ta.
 Nom Dat Nom loved comp claimed-decl
 'Mary claimed to Me_i that Yenghi loved me_i'
- b. Mary-ka Johni-eke [Yenghi-ka e_i saranghayss-um]-ul cwucanghayss-ta.
 Nom Dat Nom loved comp Acc claimed-decl
 'Mary claimed to John_i that Yenghi loved him_i'

If we look at (43b) only, we could say the EC is always [+3rd person], but (43a) dissuades us to believe the assumption.

3.4.2. 'Object pro' in Relative Clauses

When Korean contains an incomplete head noun, kus⁸, and a relative clause, 'object pro' is observed:

(44) [Korean]

- a. John-i [ø ø wihyuphanun] kus-ul sicakhayss-ta.
 Nom threaten KUS-Acc began-decl.
 'John began to threaten pro.'

⁸. Nam and Ko (1991, 70-71) explain that kus in Korea is a dependent noun which may not appear without taking modifying phrases. Kus is almost the same as mulken in meaning, but it cannot appear by itself. Note the following:

- (1) Mulken-i manh-ta.
 thing-Nom many-Decl. 'There are many things.'
- (2) *Kus-i manh-ta.
 thing-Nom many-Decl. 'There are many things.'

Semantically, mulken and kus are almost analogous, but they differ in syntactic behavior. To contrast the two types of nouns, traditional Korean grammarians gave a term of dependent noun for nouns like kus and a term of independent noun for normal nouns like mulken. Nam and Ko argues that i 'man', pu 'person (honored)', pa 'event', and te 'place' are some examples of dependent nouns.

- b. John-i [\emptyset meknun] kus-ul sicakhayss-ta.
 Nom eat KUS-Acc began-decl.
 'John began to eat pro.'

In this case, the EC in the subject position may be considered as PRO which appears in ungoverned position, but the EC in the object position cannot be PRO because it is in governed position. Thus, I argue that 'object pro' appears in relative clauses also. The referential characteristics of this 'pro' are generic. It does not carry ϕ -features such as person, number or gender.⁹

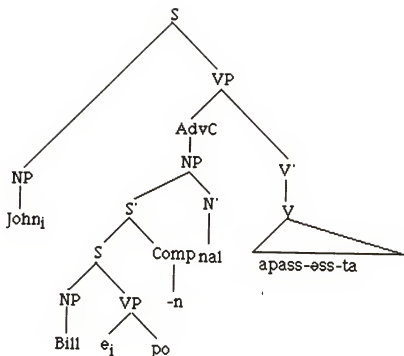
3.4. 3. 'Object pro' in Adverbial Clauses

It is very easy to find 'object pro' in adverbial clauses. Let's look at the following examples :

- (45)a. John-i [AC[IPBill-i \emptyset pon] nal] apass-ess-ta.
 Nom Nom see day sick-was-decl.
 'John was sick on the day Bill saw (him).'
- b. John-i [AC[IPBill-i \emptyset yatanchin] pang-ese] woolko-iss-ess-ta.
 Nom Nom scold room-at cry-ING-past-decl.
 'John was crying in the room where Bill scolded (him).'

⁹ I assume that ϕ -features of generic pro are assigned by the identification process applied at LF.

(46)



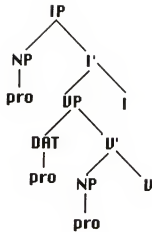
First of all, the EC is in governed position and it cannot be PRO. The EC cannot be a trace here because the movement from the embedded object position to the matrix subject position will violate the subadjacency condition. Thus, a natural conclusion would be to assume that this entity is an instance of pro.

3.5. Conclusion

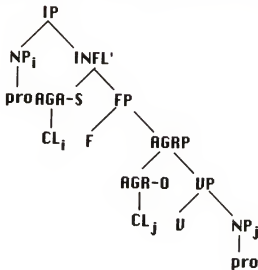
This chapter has argued for the existence of both PRO and pro and the subject-object SYMMETRY in that pro is allowed both in subject and object positions.¹⁰ As we observed in Korean data, Korean allows pro in every argument position:

¹⁰ Similarly, Roberge (1990, 54) argues for the subject-object symmetry in pro licensing. He argues that both subject pro and object pro are licensed by clitics, subject clitic for subject pro and object clitic for object pro:

(47)



As the tree diagram (47) illustrates, *pro* is observable both in subject and object positions. When Korean allows *pro* in these positions, however, there must be a preceding sentence which provides background information of the sentence under consideration. If there is no sentence/utterance preceding, a sentence without an argument is ruled out as I have pointed out in (3c) and (3d) in Chapter 2. An EC observed in embedded clauses may be identified as *pro*. First, *pro* is allowed in subject, object and dative argument positions. An empty pronominal occurring in the embedded subject position may be



controlled either by the matrix subject or by the dative argument, depending on the context, which is the same with *pro* in the embedded object position. Theta role itself, however, does not influence the coreferential relation between an antecedent and an empty pronominal in the embedded clause as I pointed out in 3.4.1. As many syntacticians acknowledge, Korean shows neither the typical subject-verb agreement nor the verb-object agreement. Yet I argue that Korean exercises an option that can delete arguments in surface syntactic representations, and that Korean actually shows a sort of subject-verb and object-verb agreement in honorific expressions.¹¹ To give a proper treatment of the *pro-drop* phenomena in Korean, I will show how null subject and object phenomena in various languages are explained in the Principles and Parameters Approach in the following chapter.

¹¹. See Chapter 5 for object-verb agreement in Korean.

CHAPTER 4

ISSUES ON THE SYNTAX OF "NULL ARGUMENTS"

4.1. On "Null Subjects"

4.1.1. Rich Infl Hypothesis

Chomsky (1981) considers the "missing subject" in pro-drop languages as noncontrol PRO, but later revises his classification of ECs (Empty Categories) in later work, especially in Chomsky (1982). Chomsky classifies empty categories as follows:

(1)		
a. [+anaphor, -pronominal]	Overt Category	Empty Category
b. [-anaphor, +pronominal]	overt anaphors	NP-trace
c. [+anaphor, +pronominal]	pronouns	pro
d. [-anaphor, -pronominal]	?	PRO
	R-expressions	variables

The classification of empty categories in (1) is based on the logical possibilities of empty categories. Theoretically, the overt category (1c) is impossible, since it would have to be ungoverned by virtue of Principles A and B of the binding theory and would therefore violate the Case Filter. In other words, nonexistence of an overt [+anaphor, +pronominal] can be explained theoretically. Chomsky raises a logical problem with the nonexistence of an empty category specified as [-anaphor, +pronominal]:

"However, there is no principled reason why there should not be an EC of type (5)b, that is, a pronominal nonanaphor satisfying only Principle B of the binding theory." (Chomsky 1982; 81)

He explains why one cannot analyze a "missing subject" in pro-drop languages such as Italian as either PRO or trace. A "null subject" cannot be PRO because it functions simply as an empty pronominal, not an anaphor. A "null subject" cannot be a NP-trace since it is not a pure anaphor analogous to NP-trace. A "null subject" cannot be a Wh-trace because this would cause NIC violations as in (2).

(2) * Who do you think that t saw Bill?

Chomsky also notes that the possibility of having a pure pronominal EC subject is closely related to a "rich enough" inflectional system, so that inflection determines the grammatical features of the "missing subject."

- (3) a. John/ * \emptyset saw that film. [English]
 b. Juan/ \emptyset vio ese film. [Spanish]

The English sentence (3a) does not allow a null subject because the agreement system is not rich enough for speakers to identify a null subject, whereas the Spanish sentence (3b) does allow a null subject because the agreement system is rich enough. This analysis advocates the claim that AGR in English does not govern \emptyset while AGR in Spanish governs \emptyset .

4.1.2. A Challenge to the Rich Infl Hypothesis

Some languages, such as Chinese and Korean, allow null subjects even though they have NO verbal inflection at all. To account for such languages, Huang (1984) reintroduces John R. Ross's (1982) classification of languages, which is based on McLuhan's (1964) "hot-cool" division of the media. According to McLuhan, if a medium of communication requires little or no audience participation, it is "hot." If a medium of communication requires active audience participation, it is "cool." In view of this classification, English is a "hot" language because pronouns in general cannot be omitted from grammatical sentences, and

the information required to understand each sentence is largely obtainable from what is overtly present. Chinese and Korean are "cool" languages in that such pronouns are usually omissible from grammatical sentences, and understanding a sentence requires some work on the reader's or the hearer's part, which may involve inference, context, and knowledge of the world, among other things. Spanish and Italian are "medium-hot" languages, allowing more freedom than the "hot" languages, but less than the "cool" ones, in the use of empty or zero pronouns. Huang (1984) illustrates the distribution of ECs in "hot," "medium," and "cool" languages. Let's illustrate his example again (Huang 1984; 553).

- (4) a. e came.
 b. John saw e.
 c. e saw e.
 d. John said that e saw Bill.
 e. John said that Bill saw e.
 f. John tried e to come.
 g. e to come.

In all of the languages surveyed by Huang, (4f) is grammatical, and Huang explains that this is because the position of the EC is in the position of obligatory control. The EC is PRO for the following reasons. First, the e position in (4f) is a theta-position. In other words, theta theory necessitates that *e* must carry the theta-role AGENT of the verb come. Since John and *e* may be co-indexed, one may assume that *e* is a sort of trace, but this analysis is not tenable. If it is a NP-trace, the landing site, i.e., the position occupied by a NP John, must be a non-theta position (theta criterion). But the position of John is not a non-theta position because it is a subject position at which AGENT theta role can be assigned by the verb try. The EC may not be analyzed as Wh-trace because the antecedent John is not in A'-position. Notice that the landing site of a Wh-movement is always an A'-position. However, (4g) in all languages is

ungrammatical because of the principle of recoverability. Since there is nothing to determine the content of the EC, it is ill-formed. In medium languages, the subject position may be null because of the existence of rich inflection (or agreement) systems. This EC is *pro*, a phonologically null counterpart of a lexical pronoun. In "cool" languages, Huang argues that (4b)-(4e) are all grammatical, not because of a rich inflection system, but because these languages allow a "zero-topic" operator. In Huang's analysis, the ECs in (4b), (4c) and (4e) are assumed to be a variable, coindexed with the topic of the sentence. There is only one exception to this generalization. "Cool" languages can have *pro* in the subject position of an embedded finite clause as in (4d).¹ According to Huang (1984: 556), the EC is a pronominal if it is coindexed with the subject NP *John* as in (4d), and it is a variable if it is coindexed by the discourse topic as in (4b), (4c) and (4e).

Huang (1984) criticizes Chomsky's explanation in that Taraldsen's generalization does not apply to languages such as Chinese, Japanese and Korean, which are assumed to have no system of verb-subject or verb-object agreement. He proposes a "zero-topic parameter" together with the Generalized Control Rule (GCR):

(5) The Generalized Control Rule(GCR)

Coindex an empty pronominal with the closest nominal element.

Here the "closest" refers to a c-commanding nominal element which is located closest to *pro*. Huang's GCR predicts that sentence (6) is ruled in.

(6) [Chinese]

Zhangsan _i	xiuag	[e _i	keyi	kanjian	Lisi]
	want		can	see	

'Zhangsan wants that (he) can see Lisi.'

However, Huang's GCR does not rule out sentence (7).

¹ Both Huang (1984) and Lee (1987) agree on the existence of subject *pro* in Korean, which is assumed to be a "cool" language.

inflectional system rich enough to predict the content of the EC. Co-indexing *e* with object NP John is also impossible because it will make an undesired interpretation such as "John saw himself," which is also predicted to be wrong by the binding condition B. Consequently, the ECs in (9a) and (9b) violate Huang's GCR. But these sentences are perfectly grammatical in Korean. Therefore, Lee must adopt the "zero-topic" parameter for Korean also. He further argues that Huang's GCR is both conceptually and technically wrong. First, it is conceptually wrong because it assumes that the "nominal element" can be both NP and AGR. Theoretically, if the GCR is an extension of Chomsky's (1981) rule of control as Huang claims, then coindexing an element with an NP cannot be identical with coindexing an element with AGR in a medium-hot language such as Italian or Spanish. Second, non-applicability of the GCR does not necessarily make an empty element a variable. According to Huang's explanation, an object EC has to be interpreted as a variable by a "predication" rule. However, he does not argue convincingly in favor of this proposal. Third, he claims that subject and object gaps do not show genuine asymmetries such that they may be interpreted as pronominals or variables.³ Subsequently, Lee claims that Korean exhibits two different configurations which give rise to variables : i) by movement to A'-position, and ii) by co-indexing with an A'-antecedent. Some sentences which show subject-object asymmetry are interpreted to be the result of co-indexing through "control" in Lee's terms, and not a result of pro-drop. The crucial condition on the LICENSING of this variable as what Lee demonstrates is the "controlee condition":

(10) A controlee always appears in the subject position, unless there are some overriding lexical, semantic or pragmatic factors involved.

³. This is why Lee(1987) assumes the zero-topic operator as an identifier of pro. We will examine this issue in Chapter 4.

- (11)a. Zhangsan_i xihuang [e_i key kanjian Lisi] [Chinese]
 Aθ hope Aθ can see Aθ

An empty category in (11a) should be a pronominal because it is locally A-bound by an antecedent with an independent θ-role. The position of *e* cannot be a trace because it has an independent θ-role (i.e., the see-er of Lisi), and Zhangsan, the antecedent of *e*, also has an independent θ-role (i.e., the hoper of "somebody can see Lisi").

- (11) b. Zhangsan_i xihuang [e_j keyi kanjian Lisi] [Chinese]
 (11) c. [top ø_j] [Zhangsan_i xihuang [e_j keyi kanjian Lisi] [Chinese]

Under his analysis, *e_j* is a variable because it is A'-bound by the null topic.

Returning to Huang's analysis, sentence (12a) is grammatical in Chinese as long as e has a different index from Zhangsan.

- (12) [Chinese]
 a. Zhangsan_i xihuang [Lisi keyi kanjian e_j]
 Aθ Aθ Aθ
 b. [TOP ø_j] [Zhangsan_i xihuang [Lisi keyi kanjian e_j]]

Here, the empty category, *e_j*, is a variable because it is A'-bound by [TOP ø_j] in A'-position. However, we cannot assign the same index to Zhangsan and object *e*.

- (12) b' * Zhangsan_i xihuang [Lisi key kanjian e_i]
 Aθ Aθ Aθ

The empty category *e* cannot be a trace because the NP, Zhangsan_i, is located in Aθ-position. According to Chomsky (1981), a NP can move from a θ-position to a θ'-position but cannot move from a θ-position to another θ-position because it will violate the θ-criterion and projection principle. Notice that the EC is a SEE-EE and Zhangsan is a HOPER. So, the only possible way of interpretation is to

construe e as PRO. But this will violate the PRO Theorem assumed in Chomsky (1981).⁴ The issues raised by Huang's proposal can be summarized as follows:

- (13) i) How rich is "rich enough" agreement for the existence of a null subject?
- ii) The existence of object pronominal ECs
- iii) There is a partial redundancy between the GCR and Binding Theory.

To avoid the empirical problems of Chomsky (1982) and Huang (1984), Jaeggli and Safir (1989) suggest that there is a way to combine two different type of languages.

4.1.3. Morphological Uniformity Hypothesis (MUH)

Jaeggli and Safir (1989) propose a new version of the Null Subject Parameter roughly stated as in (14):

- (14) Referential null subjects need to be both identified and licensed.

Their licensing condition predicts that a language can delete referential subjects under certain conditions. The licensing condition for null subjects is

(15) The Null Subject Parameter/Licensing Condition

Null subjects are permitted in all and only languages with morphologically uniform paradigms.

Condition (15) is a necessary condition in that the null subject cannot be allowed if the inflectional paradigm of a language is not uniform. Jaeggli and Safir define "morphological uniformity" as follows:

(16) Morphological Uniformity

An inflectional paradigm P in a language L is morphologically uniform iff P has either only underived inflectional forms or only derived inflectional forms.

⁴ In his PRO theorem, PRO cannot appear in a governed position while trace can appear in a governed position. That's why one cannot get an interpretation of (12b').

Condition (16) predicts that a paradigm is uniform if all its forms are morphologically complex or if none of them are. In other words, if the paradigm is mixed, that is, if some of its forms are morphologically divisible into stem + affix while the other forms are bare stems, then it is not uniform. By this definition, paradigms for English and French are not morphologically uniform.⁵

- (17) English;
 to talk infinitive
 talk present 1s, 2s, 1pl, 2pl, 3pl
 talks present 3s
- French;
 [parl-e] infinitive ('to talk')
 [parl] present 1s, 2s, 3s, 3pl
 [parl-ô] present 1pl
 [parl-e] present 2pl

In the English example, talks can be analyzed into stem + affix, while talk is a bare stem. So, we cannot say the inflectional system (paradigm) of English is morphologically uniform. For French, [parl-e] and [parl-ô] are analyzable into stem + affix while [parl] is a bare stem. Again the inflectional paradigm in French is not morphologically uniform. In contrast to English and French, the paradigms for Spanish, German, Irish and Japanese are all morphologically uniform. Let's look at the paradigms:

- (18) [Spanish]
- | | | |
|-----------|-----------------|-----|
| habl-o | I speak | 1s |
| habl-as | you (sg.) speak | 2s |
| habl-a | he/she speaks | 3s |
| habl-amos | we speak | 1pl |
| habl-áis | you (pl.) speak | 2pl |
| habl-an | they speak | 3pl |

⁵. Although Chinese and Korean are morphologically uniform in a different manner, Korean with stem + inflectional endings and Chinese stems only, the null subject phenomenon seems to be the same. This fact thus also supports Jaeggli and Safir's claim.

[German]

(ich)	arbeit-e	I work	1s
(du)	arbeit-est	you (sg.) work	2s
(er/sie)	arbeit-et	he/she works	3s
(wir)	arbeit-en	we work	1pl
(ihr)	arbeit-et	you (pl.) speak	2pl
(sie)	arbeit-en	they work	3pl

[Irish]

chuirf-inn	I would put	1s
chuirf-ea	you (sg.) would put	2s
chuirf-eadh	he/she would put	3s
chuirf-imis	we would put	1pl
chuirf-eadh	you (pl.) would put	2pl
chuirf-eadh	they would put	3pl

[Japanese]

yom-ru	read-present
yom-ta	read-past
yom-anai	read-neg
yom-eba	read-conditional
yom-oo	let's read
yom-itai	want to read
yom-are	was read
yom-ase	make read

Every form consists of a stem plus some affix in the paradigms above, so the paradigms are morphologically uniform. Here, we need to notice that the 'morphological uniformity' condition is not the same notion as the 'rich inflection' system in that the 'morphological uniformity' condition does not require us to have a different ending for person-number variation. So far we have seen some inflectional paradigms and observed that the inflectional paradigms for English and French are not morphologically uniform while the paradigms for Spanish, German, Irish and Japanese are morphologically uniform. What (15) implies is that Spanish, German, Irish and Japanese should/can have null subjects. However, there is a problem with the strong claim stated in (15). The condition says that if (15) holds for any language, we can delete any NP in the subject

position. Actually, Spanish, Irish and Japanese allow null subjects, both referential and expletive, but German allows only expletive null subjects. Thus, Jaeggli and Safir propose a second condition (Identification Condition):

(19) Identification Condition

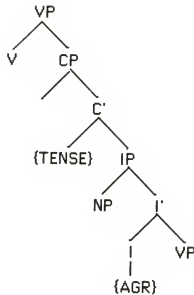
A thematic null subject must be identified.

Condition (19) is a general theorem with two conditions: identification by agreement and non-local identification by agreement. The fact that German allows expletive null subjects while it does not allow referential (thematic) null subjects can be explained by (19). Let's look at the first condition.

(20) AGR-TENSE can identify an empty category as pro iff AGR-TENSE governs the empty category.

According to Jaeggli and Safir (1989), all V/2 languages such as German, which imposes a special condition that the main verb should appear as the second element in every sentence, have an underlying sentence structure like (21). Jaeggli and Safir explain that in (21), TENSE governs NP/S (subject NP), but AGR cannot govern it. That is why German allows expletive null subjects while prohibiting thematic null subjects. In other words, there is no device for identification of NP/S even though the licensing condition (15) allows thematic null subjects.

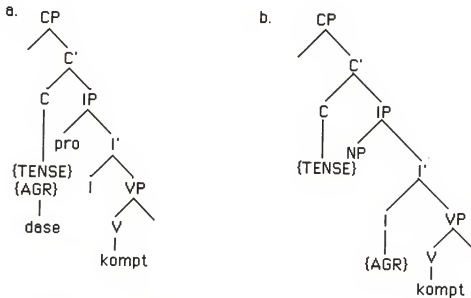
(21)



They also provide some supporting evidences for this analysis in West Flemish.

In this language, null thematic subjects are possible iff the tensed complementizer is inflected.

(22)



In (22a), both TENSE and AGR c-command the empty subject while

C(complementizer) in (22b) contains TENSE only, and AGR is contained in INFL.

Thus, one can say TENSE-AGR governs the empty subject in (22a), but TENSE c-commands and governs the empty subject, whereas AGR does not c-command even though it m-commands the null subject in (22b). As a result of this analysis, the revised condition for identification is proposed:

(23) Identification by Agreement

AGR can identify an empty category as thematic pro iff the category containing AGR Case-governs the empty category.

Finally, Jaeggli and Safir propose the second condition for identification.

(24) Non-local Identification by Agreement

Whenever there is no local government by TENSE-AGR, then a c-commanding NP must provide an antecedent.

Condition (24) is very similar to Huang's analysis. Actually two issues must be addressed in the case of null subjects in Chinese.

(25) Null Subjects in Chinese

- i) a null topic analysis
- ii) the control of pro

In (25i), the process leaves a variable which, according to principle C of the Binding Theory, must be free in the scope of the operator. In case ii), a subordinate null subject is interpreted as coreferential with a higher NP. Jaeggli and Safir do not elaborate on this proposal, but simply suggest some possible solutions such as Huang (1984) and Borer (1986).⁶

⁶ Borer's solution is little different from Huang's. Here is an example of his approach.

Borer's Solution: AGR inherits features from a c-commanding NP, then these features identify the null subject of a complement clause.

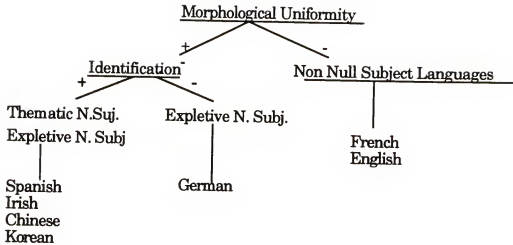
Zhangsan _i	xīhuang	S*[e _i AGR	key	kanjian	Lisi]
	hope		can	see	

According to Borer, AGR in S* (embedded clause) inherits features from the c-commanding NP Zhangsan and AGR in S* identifies e. Borer's solution is different from Huang's in that Borer's proposal does not require a sort of co-indexing.

4.1.4. Theoretical Implication of the Morphological Uniformity Hypothesis

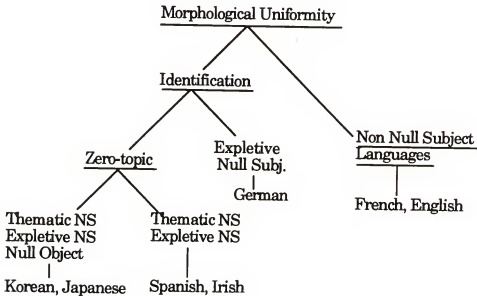
It was Chomsky (1981, 1982) who first posed the null subject phenomenon in the GB framework. However, Chomsky's explanation fails to explain why languages which do not have a rich inflection (agreement) system do allow null subjects. He simply assumed that languages whose agreement systems are rich enough to identify the deleted subject may have null subjects (Taraldsen's Generalization). Huang (1984) proposes a zero-topic analysis for Chinese, Japanese and Korean because these languages are all discourse-oriented languages. His analysis explains why languages lacking agreement systems can allow null subjects, but it does not give us any reason for the pro-drop phenomenon which is shared by two totally different groups of languages. Lee's proposal is limited to languages which do not have rich agreement systems such as Chinese, Japanese and Korean. He proposes a "zero-topic" parameter which explains why languages like Korean, Chinese and Japanese can delete a thematic subject. However, Lee's proposal does not give us any explanation on the pro-drop phenomenon. Jaeggli and Safir's proposal shows merit in this issue. This division between licensing conditions and identification conditions is very useful because one can generalize that all languages which are morphologically uniform can have null subjects. If a language allows null subjects, it should exhibit morphological uniformity. The two types of identification rules are more like a sufficient condition in logic. If there is no identification device, a language cannot allow thematic null subjects but can allow expletive null subjects if it meets the licensing condition:

(26)



The further distinctions between languages like Spanish and languages like Korean can be accounted for by the existence of a zero-topic operator. Even though both groups of languages allow null subjects, only Korean allows a null object not derived by any movement. It will be proposed that the zero-topic parameter accounts for this distinction. So, the revised classification will be

(27)



In sum, Jaeggli and Safir's proposal is significant in that the null subject parameter is reduced to the type of verbal inflection paradigm of the language. In addition, Borer (1989) convincingly argues that the referential identification of PRO can be achieved by assuming [+anaphoric] AGR in Korean, which strongly suggests to us that AGR is universal, and that the AGR elements are responsible for pro-drop parameter.

4.1.5. Borer (1989) and [+anaphoric] AGR

Reviewing the phenomena of control and control theory in various languages, Borer (1989) challenges the existence of an independent module of control. Standard accounts of control and control phenomena are challenged in two ways: i) Borer does not distinguish the null element occupying the [NP, S] position in infinitives and gerunds and the null elements occupying the [NP, IP] (= [NP, S]) position in tensed clauses; both are understood as pro; ii) control effects have nothing to do with the presence of a null element. Rather, control effects may be adequately explained by the binding conditions, with the assumption that AGR in infinitives and in gerunds is anaphoric in the usual sense and has to abide by binding condition A of Chomsky (1981).

- (28) i) A type of EC PRO is abolished in the grammar.
 ii) pro, like all empty categories, must be identified by a coindexed c-commanding element.

4.1.5.1. AGR and Control

Borer (1986) argues that the Extended Projection Principle of Chomsky (1981) should be replaced by the requirement that INFL have an I-Subject, as stated in (29):

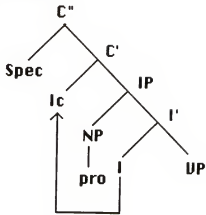
- (29) Coindex NP with INFL in the ACCESSIBLE domain of INFL.

The term I-Subject is used for the NP coindexed with INFL. She assumes that all empty categories must be I-identified, that is, they must be co-indexed with an I-identifier. In her system, INFL is the head of S (=IP), Comp is the head of S' (=CP), and a rule of head movement raises INFL to COMP.

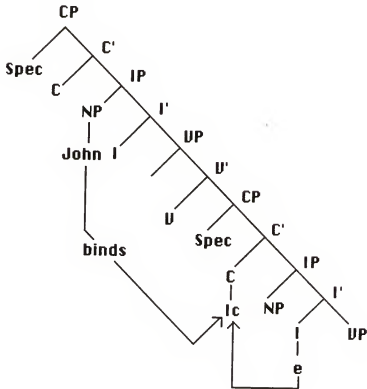
The infinitival [NP, IP] position may be structurally governed (although not properly governed) from COMP, and specifically by INFL if it is raised. If the [NP, IP] position of infinitives and gerunds does in fact have a governing category, PRO may not appear in [NP, IP] position because PRO may not meet the Binding Conditions A and B at the same time. Thus, it is impossible to maintain that the [NP, IP] position in infinitives and gerunds is PRO. On the nature of the empty category occupying the [NP, IP] position in infinitives and gerunds, unlike Bouchard (1984), who assumes either [+pronominal] or [+anaphoric] features without any condition, or Manzini (1983), who assumes a [+anaphoric, -pronominal], Borer assumes that it is the empty pronominal *pro*.

If we accept Borer's analysis, languages like English allow *pro* in the [NP, IP] position of infinitives and gerunds, but not in the [NP, IP] position of tensed clauses. It is AGR which is anaphoric in infinitives, while AGR is either anaphoric or non-anaphoric in gerunds. Anaphoric AGR (in English) may not assign Case. Note the following:

(30) Infl-movement



(31)



In (30), INFL is effectively the (derived) head of CP. Borer assumes that CP is best designated as IcP in this respect and that the head of this projection (Ic) shares the binding domain of IcP . In other words, when there is a c-commanding antecedent for IcP in the appropriate domain, the head of IcP is bound by such an

antecedent and the inflectional features of that antecedent percolate to the derived head of *IcP*, i.e., *INFL* containing *AGR*.

(32) Anaphoric *AGR* must be X-bound by a +N category at S-structure ($X=A_iA'$)

Unlike Manzini (1983), Borer argues that the anaphoric element is *AGR* in *INFL* itself, and not *PRO*. Given the I-subject model, whatever index being assigned to *AGR* (in *INFL*) by its antecedent will be transferred to the *pro* in the [*NP*,*IP*] position. Thus, in (33) John is the antecedent of the infinitival *AGR*, transmitting a referential index to it, the *AGR*. In turn, the *INFL* containing this *AGR* moves to the *COMP* position, and it is coindexed with *pro*, transmitting this referential index to *pro*, and creating a referential dependence between John and pro.

(33) John_i tried [*IcP* *INFL*_i [*IP* *pro*_i [*INFL* e] to leave]]

One thing that should be highlighted here is the fact that the embedded subject must be coindexed with the matrix subject whether or not the position occupied by the embedded subject is governed, case marked, and sometimes phonologically realized. There is, however, a restriction that the embedded subject may not get an independent reference.

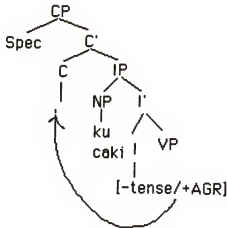
As Borer points out, Bouchard's (1984) assumption that *PRO* is in certain contexts a pure anaphor may face a problem since the Korean example shows that the *EC* which functions like a pure anaphor is not in ungoverned position. Similar objections hold for the theory advanced in Manzini (1983).

4.1.5.2. Borer's Claim

Borer's major claims can be summarized as follows: i) The [-tense/+*AGR*] node in Korean is an anaphoric *AGR*, which needs to be bound, on a par with the infinitival and gerundive *AGR* in English; ii) The complementizer in Korean

cliticizes to IP, creating an empty C. Once the C node is empty by the cliticization, AGR must be raised to C to prevent an ECP violation.

(34)



Once AGR moves to COMP, it can no longer be bound by its own I-subject. Thus, AGR must be bound by a matrix argument in order to avoid a violation of the binding conditions. Once embedded AGR is bound, and hence coindexed, with a matrix argument, the coindexation of the matrix argument with the embedded I-subject follows from the transitivity of coindexation. But Borer (1989), like Huang, does not allow object pro. According to Borer, AGR of a language may contain one or more features given below.

(35) Features for AGR

- | | |
|----------------------------|-----------------|
| a. +/- nominative assigner | (+/- NOM) |
| b. +/- rich inflection | (+/- IDENT) |
| c. +/- anaphoric | (+/- ANAPH) |
| d. +/- I-subject selection | (+/- I-subject) |

[-I-Subj.] is related to a degenerate INFL which is common in the case of Exceptional Case Marking (ECM) of an embedded subject by a matrix verb. The Infinitival AGR in Korean is characterized as [+I-subject, +Anaphoric, +Ident,

Nom], which means that Korean infinitival AGR is rich enough to I-identify, and it can assign nominative case. It is further anaphoric.

4.1.6. Underspecified AGR Hypothesis

Hermon and Yoon (1989) criticize previous approaches to pro-drop phenomena. They classify approaches to pro-drop phenomena into three major groups : i) rich AGR hypothesis, ii) morphological uniformity hypothesis, and iii) dependency hypothesis. According to Hermon and Yoon, the rich AGR hypothesis as in Taraldsen (1979) and Chomsky (1982) will face serious problems both in licensing and identification since languages like Korean, Japanese and Chinese do not contain rich AGR. The morphological uniformity hypothesis is also problematic in view of Hermon and Yoon because some languages which show morphological uniformity are not actually null subject languages (i.e., Swedish and Danish). The third proposal by Adams (1985) is also problematic since she assumes that the availability of null pronouns follows from the interaction of two independent parameters: directionality of government and the head parameter. Hermon and Yoon point out that this account incorrectly predicts that all SVO languages which allow V-2 should be pro-drop. After the argument against these three previous approaches, they propose a new model of analysis of pro-drop phenomena. Their approach is based on Rizzi (1986), who first introduced the notion of "licensing". The licensing of pro is defined as follows:

(36) pro is governed by a case marking licensing head X° .

The licensing condition can be further analyzed with the following sub-claims :

- (37) a) pro is governed by X° (=a lexical category).
- b) The licenser of pro (= X°) is a case assignor.
- c) In all null subject languages, X° assigns case.

Claim (37a) means that *pro* must be licensed by a lexical head, not by an XP.

Consequently, zero-topic which assumed to be an NP cannot be a licenser of *pro* in Korean. Claim (37b) argues that *pro* is not limited to the subject position and that *pro* may appear in both subject or [NP/S]-position and object or [NP/VP]-position.

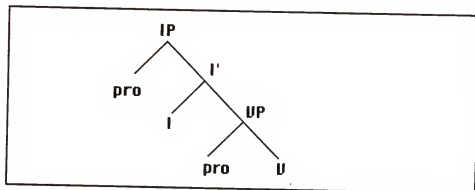


Figure 1: Positions of *pro* in Pro-Drop Languages

Claim (37c) may be interpreted that case assignors in NSLs are responsible for licensing *pro*. Comparing this proposal with Huang (1982, 1984, and 1987), there are some crucial differences between the two.

- (38) a. Contrary to Huang's proposal, there is no subject-object asymmetry.
 b. The object position may also be occupied by null pronominal elements.

As I we look in detail at their IDENTIFICATION system, what we actually find is a reinterpretation of identification in terms of parametrization of AGR based on Gilligan's (1987) language classification which is summarized in Figure 2.

Language Types	ECs	AGR	Languages
Core NSL	OB1 Null Exp Opt pro	rich AGR	Italian, Spanish
		no AGR	Korean, Chinese
Core non-NSL	No Null Exp No pro	weak AGR	English, French
		?	Swedish, Norwegian Danish, Dutch A
Restricted NSL	Limited \emptyset -Exp Limited pro	?	Old French, Bavarian
Exp NSL	Limited \emptyset -Exp No pro	?	Icelandic, German Papiamentu, Duka Guaymi, Tagalog

Figure 2: Gilligan's (1987) Typology

According to Hermon and Yoon, there are four different types of "identification": i) fully specified AGR, ii) underspecified/[+pronominal] AGR, iii) partially underspecified/[+anaphoric] AGR, and iv) PERSON-lacking AGR. In their classification, Italian and Spanish are languages of the first type, Korean and Chinese are languages of the second type, Hebrew and Papiamentu are languages of the third type, and finally Irish, Turkish, and Arabic are languages of the fourth type. Underspecification of AGR in these languages is shown in (39):

- (39) a. the analytic forms in Irish verbal paradigm.
 b. the entire verbal paradigm in Papiamentu
 c. the weak paradigm in Turkish
 d. the present paradigm in Hebrew
 e. equatives" in Arabic

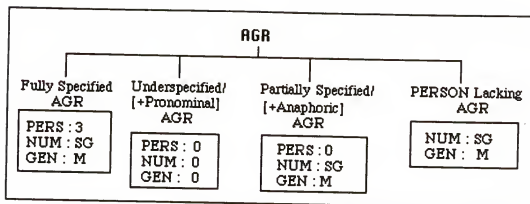


Figure 3: Hermon & Yoon's (1989) Classification of AGR

Since the present study is concerned primarily with 'cool' languages like Chinese and Korean, other types of "identification" will not be discussed here. Instead, we shall closely examine type ii) AGR. As we can see in Figure 2, there are no feature values for PERSON, NUMBER and GENDER in the AGR matrix. This is called "underspecification", which means that [+pronominal] AGR in Korean (also in Chinese) must pick up phi-features from discourse or from a preceding NP. I will explore some possible ways of employing this proposal in the following chapters. Hermon & Yoon observe a syntactic similarity among type-2 AGR languages, i.e., the existence of long-distance bound reflexive pronouns.⁷ One may raise a question to Hermon & Yoon's proposal as to the existence of AGR in Korean.⁸ Hermon & Yoon, however, provide some examples for agreement facts

7. The logical followup seems to be an examination of this claim. It has been observed that Norwegian and Icelandic, which are not considered as type-2 AGR languages, also show long-distance bound reflexive pronouns. Refer also to Joan Maling (1984) for Icelandic and Afarli (1987) for Norwegian in this respect. Since long-distance bound anaphora is assumed to be the only diagnostic for type-2 AGR languages, it is difficult to examine the validity of the typology, but I strongly believe that this is the only way that one can explain pro-drop phenomena within a single frame.

8. Yoon J-Y (1990) convincingly illustrates that the AGR element is visible in honorific sentences and pluralized sentences. It will be discussed in detail in Chapter 6.

in Korean. For example, (17) in Hermon and Yoon (1989) reiterated as (40), provide an insightful hint for *pro* "Identification" in Korean.

(40) Korean

- a. John-i Mary-lul ponayss-ni ?
 Nom Acc send - Q
 'Did John send Mary?'
- b. Ani, caki - ka AGR wass - e
 self-Nom p : 3 came
 N: sg
 G: m
 'No, he himself came.'

Even though *caki* has no agreement feature, it obtains the features [3-person, Singular, Masculine] from AGR, which indicates that AGR actually is an identifier of *pro*.

4.1.7. Summary

In this section, different proposals on 'null subject parameter' are discussed and rejected in favor of the licensing and identification approach by Hermon & Yoon (1989). They propose that AGR in *pro*-drop languages may be typologically classified into four types: i) fully specified AGR, ii) underspecified AGR, iii) partially specified AGR, and iv) PERSON lacking AGR. They also suggest that Korean belongs to the second type. Rizzi (1986) proposes that *pro* is licensed and identified by *X'* category, which indicates that the licenser of *pro* must be a sort of governor. The present study advocates Hermon and Yoon's proposal which assumes that [+deictic] or equivalently [+pronominal] AGR licenses '*pro*' and that 'object *pro*' is allowable. I, however, note that specified AGR is different from underspecified / [+pronominal] AGR in that the former type of AGR behaves as a licenser and identifier of *pro* while the latter type of AGR licenses *pro*, but only identifies *pro* indirectly. I adopt the following working hypotheses: i) the topicalized NP provides

phi-features to underspecified AGR in Korean and ii) specified AGR resulting from coindexation with the topicalized NP in turn identifies pro.

4.2. On "Null Objects"

4.2.1. "Null Objects" in Italian

4.2.1.1. Formal Licensing

Rizzi (1986) points out that the "strong agreement" hypothesis contains some problems in that if pro were restricted to occur in local construal with "strong agreement" as in Chomsky (1982), it should be excluded in object position both in Italian and English (and in any language lacking object agreement). Yet, Italian allows pro objects. He further argues that the standard view of the pro module must be modified. Criticizing Chomsky (1982) for not distinguishing formal licensing and "recovery" of the content, Rizzi argues that formal licensing and recovery need to be separate just like other empty categories. According to Rizzi, two conditions must be met to have the null element pro. His licensing condition is

(41) pro is case-marked by Xy° .

(41) implies that pro is licensed by a case governing head of type y , where the class of licensing heads can vary from language to language. The defining characteristics of null subject languages is understood as a particular setting of the parameter of (41). For instance, NSLs such as Italian and Spanish contain a governing Infl, which assigns nominative case, and it is a member of X . By the same token, the licensing of pro in object position is understood as another instantiation of the licensing schema. He stipulates that V belongs to the licensing class in Italian, while V does not belong to it in English.

4.2.1.2. Interpretation

Rizzi proposes the following as a "recovery" condition :

(42) Let X be the licensing head of an occurrence of pro ; then pro has the grammatical specification of the features of X coindexed with it.

(42) implies that the recovery of pro 's content requires binding from the local head. Notice that head binding is the abstract equivalent of control. In the case of pro in subject position, the licensing head, Infl, has features of agreement. In the case of pro in object position, Rizzi argues that it needs to have the following rule :

(43) Assign arb to the direct θ -role.

Rizzi assumes that θ -role assignment is a lexically governed process both in the lexicon and in syntax. He further argues that a slot in a θ -grid does not have any intrinsic content (no φ -features) if (43) does not apply. But if (43) applies, the θ -slot acquires some intrinsic content $arb = [+human, +generic, +plural]$.

4.2.1.3 Typological Speculations

Rizzi (1986) has tried to parameterize the licensing schema and a recovery condition: pro is allowed to occur through government (case government) by a head belonging to a language-specific set of licensors, and its content is recovered through nonstandard binding by (features on) the licensing head.

Citing Huang (1984) and Saito (personal communication), however, Rizzi permits his analysis to have no way to represent Huang's generalization, and φ -features in some Asian languages such as Japanese and Korean do not play a role in the grammar. I think that Rizzi made two major mistakes at

this point. First, his omission of Huang's generalization itself damages the universality of the theory of null arguments. Second, it falsifies the linguistic facts appearing in these languages. In Chinese, unspecified AGR may not have any function in defining binding domain, but in Korean, there is a way that an unspecified AGR gets φ -features. In Korean, presumably in Japanese also, there is an AGR element which interacts between verbs and the honorific subjects. I assume that subject honorification is a typical subject-verb agreement in these languages. If this is the case, Huang's (1984) and Saito's claims will be seriously weakened.

Later in this chapter, I will argue that the theory of null arguments can be unified on a par with Rizzi's (1986) proposal, but Rizzi's proposal itself may not be viable without modification. I will discuss it in a later chapter.

4.2.1.4. On Dative pro

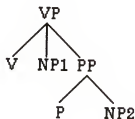
Rizzi (1986,548) argues that not only the understood theme but also the understood goal can be structurally represented as *pro*. He observes the following:

- i) Dative controller can be deleted.
- ii) While a null direct object controller can occur only in sentences with generic time reference, a null dative controller is not so restricted.
- iii) A null object can have only the arbitrary interpretation, whereas a null dative controller can also be pragmatically bound. In this case, a null dative can function as a controller, but not as a binder.
- iv) The null dative cannot function as a binder.

He argues that the designated θ -role must be visible in the syntax when the control module applies. Contrary to a direct object θ -role, an indirect object θ -role can fail to be structurally projected even if it is not lexically saturated. Being lexically unsaturated, it is syntactically visible and can act as a controller. Since it fails to be structurally projected, the problem of filling the

position does not arise. The projection principle functions differently in direct and indirect objects.

(44)



Rizzi argues that a verb directly θ -marks only the direct object in (44), and that NP2 is θ -marked not directly by the verb, but by its local governor P. He further argues that when a head directly θ -marks for a given θ -role, the corresponding structural position must be projected, whereas the selection of an autonomous θ -marker is optional. Thus, in (44) NP1 and NP2 cannot be omitted if P is there, but the whole PP can be omitted.

4.2.2. On the Parametrization of GCR

Cole (1987) counter-argues Huang's (1984) claim that null pronominal (pro) cannot occur in the object position in any language without an identifying clitic or object agreement. He claims that a number of languages such as Korean, Imbabura Quechua, and Thai exhibit null pronominal objects. Mandarin Chinese and Portuguese observe Chomsky's Binding Condition C, which bars a variable to be coreferential with a c-commanding nominal occurring in an argument position.

(45) a. Empty Subject in Mandarin Chinese (Huang, 1984)

Zhangsan_i shuo \emptyset_i Kanjianle Lisi.
 says saw

"Zhangsan says that he_i saw Lisi."

b. Empty Object in Mandarin Chinese (Huang, 1984)

Zhangsan_i shuo Lisi Kanjianle * \emptyset_i /ta_i
 says saw him

'Zhangsan_i says that Lisi saw him_i'

- (46) a. Empty subject in Portuguese (Raposo, 1986)
 Ele_i pensa que \emptyset_i perguntou-me
 he thinks that asked me
 'He_i thinks that he_i asked me.'
 b. Empty object in Portuguese (Raposo, 1986)
 *Ele_i pensa que eu recomendei \emptyset_i ao professor.
 he thinks that I recommended to the professor.
 'He_i thinks that I recommended him_i to the professor.'

The subject-object asymmetry seems to be obvious. When a null pronominal (pro) appears in the embedded subject position in Chinese and Portuguese, it is coreferential with a c-commanding NP. When a null nominal appears in the embedded object position, however, it may not be coreferential with a c-commanding NP. Huang (1984) argues that it is predicted by Chomsky's Binding Condition C (Strong crossover).

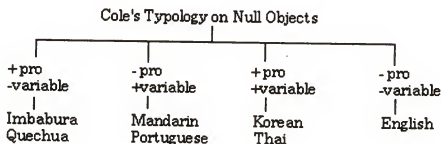
- (47) [CP Op_i [ZP NP_i...[CP [IP...t_i...]]]]

As (47) illustrates, a variable t_i , an R-expression, crosses over another coreferential R-expression in (45b) and (46b). Hence, these sentences are prohibited. However, the empty nominal in embedded subject position may be coreferential with the matrix subject, a c-commanding NP. This is why Huang (1984) and Raposo (1985) argue that the empty nominal in the embedded object position is not available. As Cole observes, however, there are some languages which show a different type of empty element in the embedded object position.

- (48) Empty pronominal object in Imbabura Quechua (Cole 1987 : 600)
 a. Juzi_i nin Marya \emptyset_i juyanata
 Jose says Maria will love
 'Jose_i says that Maria will love him_i.'
 b. Chelswu_i-ka [Yenghi - ka \emptyset_i hyeppakha-ess-ta]ko cwucangha-ess-ta.
 Nom threaten-past-ded. Comp claim -past-De
 'Chelswu_i claims that Yenghi threatened him_i.'
 c. Ni_i book waa [Nuan hen \emptyset_i]
 Nit speak say Nuan see
 'Ni_i said that Nuan saw \emptyset_i .'

If Binding Condition C applies universally and the empty objects are variables, there would be no way that the sentences given in (48) are grammatical in those languages. Hence, Huang's (1984) claim needs to be revised to accommodate the new linguistic data. Notice that the languages which exhibit null pronominal objects can be classified into two types : i) languages which also allow null variable objects (Korean, Thai), and ii) languages which do not allow null variable objects (Imbabura Quechua). Cole classifies languages into four types in terms of the properties of empty objects :

(49)

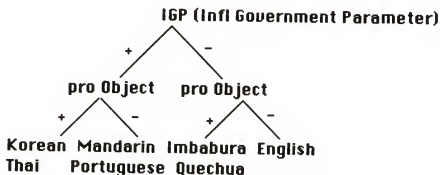


Based on Huang's (1984) claim that Infl properly governs the topic and subject in Mandarin, Cole argues that Mandarin Infl is responsible for the following linguistic facts : i) non-gap topic construction; ii) null topics; iii) no that -t effect. First, in Mandarin, non-gap topic XP may occur because the topic position is governed and topics receive nominative case just like subjects. Topics are generated without violating the case filter in Mandarin. In English and other languages in which Infl does not govern the topic, however, base-generated topics would not be case-marked and would violate the case filter. Null topics are sanctioned by Infl because it is a proper governor in languages like Mandarin Chinese. Finally, in languages in which Infl is a proper governor, the subject position is always properly governed and there are no subject-object asymmetries, which is opposite in English. English shows the subject-object asymmetry in terms of wh-phrase extraction :

- (50) a. Complement subject extraction
 *Who_i does John think that ϕ_i saw Mary?
 b. Complement object extraction
 Who(m)_i does John think Mary saw ϕ_i ?

Cole argues that Infl government property may be used as a diagnostic in distinguishing null object variable-licensing languages (Korean, Thai, Mandarin and Portuguese) and the rest of the languages which do not license null variable objects (English and Imbabura Quechua). Thus, his language typology is projected like the following :

- (51) Cole's language typology



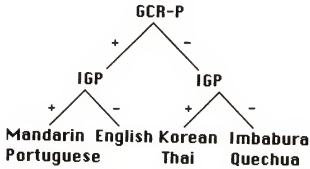
Cole also discusses the application domain of Huang's GCR :

- (52) Huang's GCR
 An empty pronominal [pro and PRO] is controlled in its control domain (if it has one).
- (53) a is the control domain for b iff
- a) α is the lowest cyclic node (S or NP) that contains β or the minimal category containing β , and
 - b) α contains a SUBJECT accessible β .

He acknowledges that the GCR correctly predicts the possibility of pro subjects in Spanish and Mandarin and the impossibility of pro subjects in English. But, he points out that there is no way that a pro object can satisfy both the GCR and binding theory unless it is controlled by a verb-object agreement or by a verbal clitic. Note that pro objects occur in Imbabura Quechua, Korean and Thai despite the absence of verb-object agreement. To

remedy this problem, Cole proposes GCR-P (Generalized Control Rule Parameter) which stipulates that GCR applies to both *pro* and *PRO* in languages like Mandarin, Portuguese, and English, and that it applies only to *PRO* and not to *pro* in languages like Korean, Thai, and Imbabura Quechua. This can be illustrated as follows:

(54)

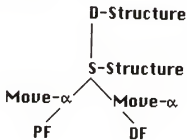


Cole's proposal clarifies some unclear points in the discussion of null object constructions in various languages. His explanation is not complete in that it does not explain anything about the control (or identification) of *pro* objects in [-GCR-P, +IGP] languages like Korean and Thai.

4.2.3. D-morpheme Hypothesis

Moon (1991) counter-argues Huang (1984) and proposes a new model to explain languages like Korean:

(55) Moon's model



Her system is slightly modified from the standard system in that there is no LF level. LF is assumed to be somewhat identical to S-structure. She includes a new level DF at which information from the discourse is available for syntactic parsing. Her D-morpheme indexing rule is the following :

(56) Assign to the D-morpheme the index of the discourse topic, if there is one.

She assumes that rule (56) applies at DF. Thus, there are four logical possibilities in representation :

- (57) a. $[_{CP} \quad [_{IP} \dots] [_{C} D_i]]$
 b. $[_{CP} ST_i \quad [_{IP} \dots] [_{C} D_i]]$
 c. $[_{CP} \quad [_{IP} \dots] [_{C} D_k]]$
 d. $[_{CP} ST_i \quad [_{IP} \dots] [_{C} D_k]]$

(57a) is a possible representation at the beginning of discourse, where there is no discourse topic. If the sentential topic serves to introduce an entity which is not currently salient, (57b) is available. (57c) is an available DF representation when there exists a discourse topic but no sentential topic. (57d) is also a well-formed DF representation because both the sentential topic and the D-morpheme share the same index. (58), however, is ruled out by the one-topic-per-sentence restriction.

(58) $*[_{CP} ST_i \quad [_{IP} \dots] [_{C} D_k]]$

Assuming that pro lacks φ -features such as person, number, and gender features just like other empty categories, Moon points out that pro needs to have an antecedent to obtain φ -features. Thus, an arbitrary index assigned to pro by free-indexing rule at S-structure gets the index of the antecedent if pro is identified. Failure of pro identification results in ungrammaticality.

4.2.3.1. Moon's (1989) Proposal

Moon (1989) shows an interesting claim that Korean has a D-morpheme (or discourse morpheme) at the beginning of a sentence. Her argument is

directed as follows : In any type of language, an empty topic position is available if a sentence does not have a sentential topic. What is to be parameterized across languages is whether or not this empty topic position can accommodate a discourse topic occurring in the previous discourse.

In her interpretation, a language which allows a zero-topic has a mechanism to accommodate a discourse topic occurring in the preceding sentence. She assumes that subject/object - drop languages have a discourse-morpheme in the matrix Comp position, but English-type languages and subject-drop languages lack it. The D-morpheme plays a role in making the connection between two sentences by transmitting the content of a discourse topic to a subsequent sentence in the same discourse domain. The semantic content of a discourse topic is encoded on the D-morpheme by co-indexation. She assumes that the discourse cannot look down into the structure of the sentence, but "sees" only the head of the sentence. She proposes a pro identification rule as follows:

(59) Identification of pro

Small pro must be identified by a local identifier.

A local identifier is defined as follows :

- (60) (i) α is a local identifier for β if α is a potential identifier for β , and there is no other potential identifier γ such that α m-commands γ and γ m-commands α .
 (ii) Potential identifier for pro: NP, D, or AGR bearing a referential index that m-commands pro.

The definition of m-command is adopted from Chomsky (1986).

(61) M-command

α m-commands β iff α does not dominate β and every maximal projection that dominates α dominates β .

In subject-drop languages and English-type languages, AGR counts as a SUBJECT, but in Subject/Object-drop languages, AGR cannot be taken as a SUBJECT since it lacks intrinsic reference (i.e., person, number, and gender features). Note the following.

(62) [Korean]

[Tori _i -ka [[pro _x Swuni-lul poassta INFL [+AGR _x]] ko]	
Tori-Nom Swuni-Acc saw	Comp
malhayssta INFL [+AGR _i]]	
said	

'Tori said that (someone) saw Swuni.'

According to (60), the *pro* under consideration can be identified by the matrix subject since the latter is determined as a local identifier bearing a referential index that m-commands the former. The result of the identification process will be represented as follows :

(63) [Korean]

[Tori _i -ka [[pro _i Swuni-lul poassta INFL [+AGR _i]] ko]	
Tori-Nom Swuni-Acc saw	Comp
malhayssta INFL [+AGR _i]]	
said	

'Tori said that (he) saw Swuni.'

pro is coindexed with Tori because Tori is a potential identifier which can carry a referential index that m-commands *pro*. Now, how can we identify *pro* in the following sentence?

(64) [Korean]

[pro _i Swuni _i -lul poassta]
Swuni-Acc saw
'(someone) saw Swuni.'

This sentence will be represented as follows after we apply the identification process.

- (65) [[pro_i Swuni_j-lul poassta INFL [+AGR_i] D_i]

In this case, *pro* is identified by the D-morpheme which can be further connected with the discourse topic by the indexing rule.

4.2.3.2. *pro* in Object Position

Now, let's go back to the basic question that we need to solve : *pro* in object position. Three types of object *pro* are observed in Korean. First, there is an object *pro* which can take generic reference. This kind of *pro* can be assumed to carry a feature [+generic] as in the case of Brazilian Portuguese. Second, there is an object *pro* which can be identified by the D-morpheme. As we can see in (66), *pro* is identified by the D-morpheme which may appear in the Spec of CP. Notice sentence a and c are impossible; (66a) is not possible because the EC in the embedded subject position cannot be identified by the D-morpheme, and (66c) is not possible because the discourse topic D₃ is different from *pro*₁.

(66) [Korean]

- a. *Tori₁-ka [[*pro*₃ Swuni₂-lul poassta] ko] malhayssta] D₃
 Tori-Nom Swuni-Acc saw Comp said
- b. Tori₁-ka [[Swuni₂-ka *pro*₃ poassta] ko] malhayssta] D₃
 Tori-Nom Swuni-Nom saw Comp said
- c.* Tori₁-ka [[Swuni₂-ka *pro*₁ poassta] ko] malhayssta] D₃
 Tori-Nom Swuni-Nom saw Comp said

Finally, there is an object pro which cannot be explained either by the feature matrix theory or by the D-morpheme hypothesis. This is the case observed by Cole (1987). Let's look at the examples again.

(67) [Korean]

- a. Chelswu_i-ka [Yenghi-ka e_i hyeppakha-ess-ta ko] cwucangha-ess-ta.
 Nom Nom threatened-decl comp claimed-decl
 'Chelswu claims that Yenghi threatened him'
- b. John_i-un [Bill-i e_i cenhwaha-ess-ta nun] sasil-ul acik morun-ta.
 Top Nom called -decl comp fact-Acc yet not-know-decl
 'John_i doesn't know the fact that Bill called e_i'

If we look at the examples given above and some other similar cases, we can see some interesting facts; i) all ECs are identified by the matrix subject NP, and ii) the main verbs involved with these sentences are classified as logophoric verbs, which take as an argument an NP that represents the speaker or the EXPERIENCER. Following Kuno (1987), we could mark an NP that represents a speaker or an EXPERIENCER [+logophoric]. The corresponding Korean verbs which take speakers as subjects are malha- 'say, tell', sayngkakha- 'think', nukki- 'feel', pulpyengha- 'complain', cwucangha- 'claim,' and so on. Thus, the revised representation of (68a) will look like the following.

(68) [Korean]

- a'. Chelswu_i-ka [[Yenghi-ka e_i hyeppakha-ess-ta] ko] cwucangha-ess-ta.
 [+logo] Nom Nom threatened-decl comp claimed-decl
 'Chelswu claims that Yenghi threatened him'

Since the main verb is a logophoric verb, Moon (1989) argues that the EC in an embedded object position can be identified by [+logophoric]NP. To include the case of [+logophoric] pro, she revises the identification processes as follows:

(69) Identification of pro

- i) Small pro must be identified by a local identifier.
- ii) Logophoric pro can be identified only by a logophoric NP.
- iii) Generic pro takes an inherent feature matrix of [+generic].

4.2.4. Summary

It is Rizzi (1986) who counter-argues Chomsky's (1982) conceptualization on pro-drop phenomena, which assumes that "strong agreement" licenses and identifies null arguments (or pro) across languages. He has not considered the possibility of having a pro object which gets a non-arbitrary reading. Cole (1987) compares four different types of languages, arguing that Chinese type languages are [+IGP, +GCR-P] languages, meaning that GCR applies to both PRO and pro. Cole's explanation accounts for Chinese and Portuguese, yet Korean type languages, i.e., [+IGP, -GCR-P] languages, have not been explained clearly because his theory does not provide any identification device for pro object in Korean type languages. Moon (1989) tries to give a solid foundation for pro bound by discourse topic. She introduces "D(iscourse)-morpheme" which mediates pro and previous discourse. While her explanation finds a solid ground for pro bound by a discourse topic, it does not give any explanation to the pro objects controlled by either a subject or dative object. To fill the gap, I will elaborate on the licensing and identification system of pro in the following subsection.

4.3. Licensing pro in Korean

4.3.1. Zero-topic : Can It Be an Identification Condition?

Huang (1984, 1987) and Lee (1987) independently claim that the existence of pro can be identified by the zero-topic parameter. They claim that the zero-topic parameter explains why cool languages like Chinese and Korean allow an object EC that is not related to movement. Let's consider the following: ⁹

⁹. Examples in (73) are from Huang (1984).

- (70) a. e came.
 b. John saw e.
 c. e saw e.
 d. John said that e saw Bill.
 e. John said that Bill saw e.

In medium-hot languages like Spanish, the e in subject position is licensed by the morphologically uniform inflectional system and identified by AGR which determines the person, number and gender of the e. But can we say zero-topic will identify the existence of pro in cool languages like Korean? In order to answer this question, we need to compare some differences between Korean and Spanish. First, sentence (70a) is not grammatical in Korean if it is uttered without proper context while the Spanish equivalent is perfectly grammatical. Second, Spanish does not allow the object EC which does not involve movement, while Korean allows it. Thus, sentences (70b), (70c) and (70e) are acceptable in Korean if they were used in a proper context. However, (70b), (70c) and (70e) are impossible in Spanish even if some probable contexts were given. All these differences are due to the existence of the null operator in Huang's (1984) analysis. The sentences in (70) are considered to have the structures given in (70').

- (70') a. [TOP ϕ_i] [S e_i came]
 b. [TOP ϕ_i] [S John saw e_i]
 c. [TOP ϕ_j] [TOP ϕ_i] [S e_i saw e_j]
 d. [TOP ϕ_i] [S John said that e_i saw Bill]
 e. [TOP ϕ_i] [S John said that Bill saw e_i]

All of the ECs in (70') are pro at D- and S-structures. However, coindexing the ECs with the null topic operator at LF causes them to be interpreted as variables. Since the sentences in (70) have the structural representations in (70') at LF, one cannot say it is pro.¹⁰ That is why the zero-topic operator cannot be an identifier

¹⁰ If we assume the zero-topic operator as an identifier of pro, we cannot find the subject-object asymmetry observed by Huang (1984).

of pro in cool languages like Korean and Chinese. If the zero-topic operator cannot be an identifier of pro in cool languages, what will be the identifier? Huang argues that the best answer to the question is his revised version of the GCR:

(71) Generalized Control Rule (GCR)

An empty pronominal is controlled in its control domain (if it has one).

Since Huang uses the definition of the control domain defined by Manzini (1983), it can be used again here:

(72) α is the control domain for β iff it is the minimal category that satisfies both

(a) and (b):

(a) α is the lowest S or NP that contains (i) β , or (ii) the minimal maximal category containing β (henceforth, MMC [β]).

(b) α contains a SUBJECT accessible to β .

If we use Huang's new definition of the GCR without using Chomsky's DJR, we may predict that (73) is a grammatical co-indexing:

(73) [Chinese]

Zhangsan _i	xiuang	[e _i	keyi	kanjian	Lisi]
	want		can	see	

According to the new definition, the embedded clause cannot be the domain of the GCR but the whole sentence is the domain. Since there is no SUBJECT accessible to the EC, the domain of the GCR extends to the matrix sentence in (73). How about the object EC? We still need Chomsky's DJR in order to avoid the following analysis.

(74) [Chinese]

*Zhangsan	xiuang	[Lisi _i	keyi	kanjian	e _i]
	want		can	see	

Even with the new definition, there is no way to avoid co-indexing Lisi with *e* if there is no help from the DJR. However, the new definition well supports the asymmetry observed in the following:

- (75) a. [TOP \emptyset_i] [S John_j said that *e*_{i/j} saw Bill]
 b. [TOP \emptyset_i] [S John_j said that Bill saw *e*_{j/i}]

Here, the *e* in (75a) can be identified by the GCR while the *e* in (75b) cannot be identified by the GCR because the domain of the GCR for (75b) is the embedded sentence while the domain of the *e* for (75a) is the whole sentence.¹¹

As I have shown, the confusion of assuming the zero-topic as the identification device has caused a lot of misunderstanding on the null subject phenomena. For example, if we assume the zero-topic operator is the identification device, object *pro* cannot be avoidable. However, as we have examined so far, the existence of the zero-topic operator does not identify the existence of *pro* but it incorporates the existence of *pro*. According to Huang (1989), there is no big difference between PRO and *pro*. The only difference lies in the fact that PRO should be controlled by the c-commanding NP whenever it appears, while *pro* may not be controlled by the c-commanding NP.

4.3.2. pro Licensing in Korean

Kim Y-S (1988) considers the issue of ECs in the form of licensing and identification. According to her, the licensing conditions for Korean ECs are the following:

- | | |
|---|-----------------------|
| (76) <u>Licensing Conditions for the Korean ECs</u> | |
| ECs | Licensing Conditions |
| i) variable, trace | proper government |
| ii) PRO | ungoverned |
| iii) <i>pro</i> | agreement/ government |

¹¹. According to Huang (1984, 1987 and 1989), if *e* is not identified by the GCR, it will become a variable automatically.

She does not allow PRO because the subject position of an embedded clause is always a governed position, i.e., the position is case-marked (Kim, Y-S, 1988). Even though this is not the question we are dealing with right now, there is a question to be solved, i.e., we need to know whether case is assigned by government or by an inherent case assumed in Saito (1985). Case-marking may not be the direct counterexample for PRO if case is not assigned under government. In the following chapter, we will discuss this issue comprehensively. Now let's focus our attention to the licensing conditions of the pro. She assumes two licensing conditions : i) agreement for subject pro as in some medium-cool languages like Spanish, and ii) government for object pro as in cool languages like Korean. Her explanation raises at least two questions. First, what does she mean by "government". Since the object position is a governed position in most languages in the world, her notion of "government" may not distinguish null object languages from other languages. Second, why is subject pro licensed by agreement while object pro is licensed by government. There is no clear argument for this. Jaeggli and Safir (1987) give us a good answer to this question.

(77) Licensing condition of pro → morphological uniformity

According to Jaeggli and Safir, the existence of pro is guaranteed if the morphological system of a language is uniform. Here, we have to notice that the morphological uniformity does not imply that each different form is associated with different person, number and gender. With this definition, we can say Korean is a morphologically uniform language. Consider the following:

(78) Korean Morphology

Korean	Gloss
ilk-ninta	read-present
ilk-essta	read-past
ilk-cianassta	read-neg
ilk-umyun	read-conditional
ilk-ca	let's read

ilk-kosipta	want to read
ilk-hyuciessta	was read
ilk-hiessta	make read

All of the forms are combined with (a) suffix(es) and a root of the verb in the paradigm. That means no form can stand on itself without attachment of some suffix(es). Although morphological uniformity can correctly predict that Korean can have *pro* in various positions, there is a murky area which needs to be clarified. What is the relation between the morphological uniformity and the existence of *pro* in Korean? I suggest here that the morphological uniformity is a superficial phenomenon which reflects fundamental principles underlying it, and that the real answer comes from more recent proposals such as Chomsky (1992), Georgopoulos (1991), Koopman and Sportiche (1991) and Ouhalla (1991).

CHAPTER 5 pro-DROP PARAMETER IN THE MINIMALIST PROGRAM

5.1. pro in the Minimalist Program

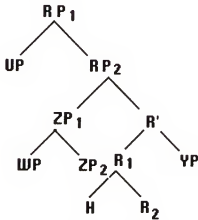
5.1.1. The Minimalist Program

Chomsky (1992) proposes a new model of syntax which aims for both optimality (or minimality) and economy of the theory. This new program, ultimately, pursues a model which allows only two interface levels, i.e., articulatory-perceptual level (A-P level, hereafter) and conceptual-intentional level (C-I level, hereafter). The level A-P is generally taken to be PF (Phonetic Form) and the level C-I is taken to be LF (Logical Form). This model of language acquisition assumes that the initial state S_0 is a functional mapping experience (Primary Linguistic Data, PLD) to a language. UG is concerned with the invariant principles of S_0 and the range of permissible variation. Variation must be determined by what is "visible" to the child acquiring language, that is, by the PLD.

According to the Minimality Program, conditions on representations—those of binding theory, case theory, theta theory, etc.—hold only at the interface levels, i.e., PF and LF. Invariant principles determine what counts as a possible derivation and a possible derived object (linguistic expression, SD). These principles determine a specific set of derivations and generated SDs, each pair (π, \mathcal{E}) . Chomsky argues that D converges if it yields a legitimate SD; otherwise, it crashes. Thus, D converges at PF if π , a phonetic form, is legitimate and crashes if it is not. Likewise, D converges at LF if \mathcal{E} , a logical form, is legitimate and crashes if it is not. It can be interpreted that

convergence is determined by independent inspection of the interface levels, i.e., PF and LF.

(1)



Chomsky also discusses fundamental relations in the syntactic computational system. According to his explanation, there are two local relations: the SPEC-head relation of ZP to R, and the head-COMPLEMENT relation of R to YP in (1). Among these relations, the head-complement relation is argued to be more local and more fundamental, i.e., typically associated with θ -relations. The SPEC-head relation falls into an "elsewhere" category, and all modes of structural case assignment are done under this relation. To facilitate his hypothesis, Chomsky assumes two types of AGRs: AGR_s and AGR_o . He explains that AGR_s and AGR_o are informal mnemonics to distinguish the two functional roles of AGR. AGR is a collection of φ -features such as gender, number and person, and these features are common to the systems of subject and object agreement. He considers both agreement and structural case as manifestations of the SPEC-head relation between NP and AGR. His system captures the symmetry between the subject and object inflectional systems in that an NP in the [Spec, head] relation to the AGR

complex bears the associated case and agreement features.¹ A noun phrase, then, may enter into two kinds of structural relations with a predicate (verb or adjective): i) agreement, involving features shared by NP and predicate; and ii) case, manifested on the NP alone.

5.1.2. On *pro* Licensing

Building on Rizzi's theory (1986), Chomsky (1992) assumes that *pro* is licensed in a SPEC-head relation to strong AGRs, or when governed by certain verbs V*. In the minimalist program, it can be revised as follows: *pro* is licensed only in the SPEC-head relation to $[_{AGR} \alpha AGR]$, where α is [+tense] or V, AGR strong or V=V*. Consequently, Chomsky argues that licensing of *pro* falls under case theory in a broad sense. The morphological features of tense and AGR have two functions: i) they check properties of the verb that raises to them, and ii) they check properties of the noun phrase (or DP) that raises to their specifier position.² Chomsky's generalized checking theory assumes that nouns are drawn from the lexicon with all of their morphological features, including case and ϕ -features, and that these must be checked in the specifier of AGR. Since the Case Filter is assumed to be an interface condition, Case features which are visible at PF are also visible at LF. AGR has two kinds of features: i) V-features that check V adjoined to AGR, and ii) NP-

¹ Chomsky (1992) assumes that T(ense) raises to AGR_S and the V raises to AGR_O to form complex categories, i.e., AGR-T and AGR-V, respectively.

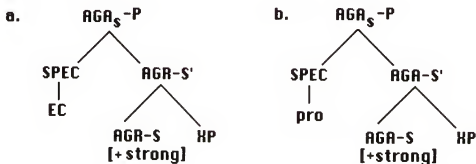
² Chomsky assumes that the subject NP moves to the SPEC of AGRs, and that the object NP moves to the SPEC of AGR_O. He argues that this kind of movement is forced by the condition of Full Interpretation (FI). The representation \mathcal{E} satisfies FI if it consists entirely of legitimate elements. Thus, the condition of Full Interpretation can be stated as follows:
Condition of Full Interpretation:

A derivation forming \mathcal{E} converges at LF if \mathcal{E} satisfies FI, and otherwise crashes.

features that check NP in SPEC-AGR. Similarly, T(ense) has the two functions: i) V-features that check the tense of the verb, and ii) NP-features that check the case of the subject.

Following Chomsky (1992), the current study argue that pro is licensed by [+strong] AGR through the typical SPEC-HEAD agreement. Notice that there is no subject-object asymmetry in Chomsky's licensing mechanism, and that the only difference comes from the property of a HEAD which varies from T(ense) to V* (a set of verbs that allow null objects). Thus, the pro licensing mechanism can be represented as follows :

(2)



(2a) indicates that an EC, which is assumed to be inside of V^{max} , is raised to the SPEC of AGR-P at LF to meet the condition of FI (full interpretation).³ The raised EC will be identified as pro by the [+strong] AGR in languages such as Spanish and Italian as Chomsky (1992) suggested. Since AGR in Korean is not strong, i.e., AGR in Korean does not demarcate φ -features of the deleted EC, Chomsky's explanation may not apply to Korean if there is no modification. In other words, there must be a mechanism for AGR to obtain φ -features to license pro in its Spec-position. Reversing the situation, when pro is licensed in Korean, AGR itself needs to be strong. I argue that there is a module which makes

³ To obtain full interpretation, pro needs to get the π -features from AGR element, here AGR-S.

[-strong, +underspecified] AGR obtain φ -features to become [+strong] AGR.⁴ For example, the honorific marker -si in Korean designates the NP from which AGR gets φ -features. Note the following:

(3) [Korean]

Sunsayngnim	i-kkese	Mary	j-eke	[[<u>pro</u> i]w cakicasin-ul	salanghasinta]	ko
teacher-Nom(Hon)			Dat	self-Acc	love	Comp
malssumha	-si	-ess-ta.				
said-Hon-Past-Decl						

In (3), the honorific marker -si appears twice; once in embedded clause and the other in the matrix clause. Notice also that the honorific marker -si appears whenever a subject is honorific, and that there is no a priori condition that pro in (3) needs to be identified by the matrix subject.⁵

Returning to the main issue, I argue that AGR in the embedded clause becomes [+strong] when there is a c-commanding NP which transfers φ -features through AGR in the matrix clause in Korean. When there is a honorific marker -si in a sentence, the φ -feature transfer is visible, but when there is no honorific marker in a sentence, the module becomes invisible. Assuming a case when there is a honorific marker -si in a sentence, the pro licensing process in Korean is the following: i) AGR-S in the matrix clause obtains φ -features through SPEC-HEAD

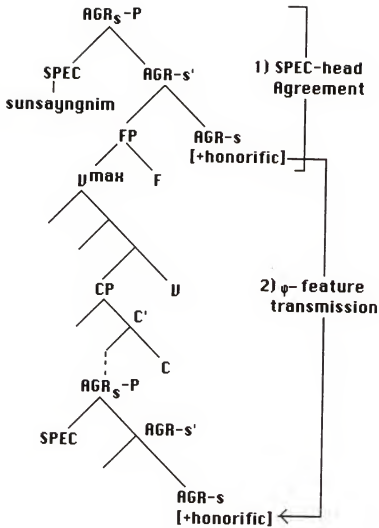
⁴ I assume that φ -features contained by the AGR in the matrix clause are transferable in Korean because AGR in the embedded clause moves into the C(complementizer) position through X^0 -movement and CP itself cannot be a barrier against this feature transfer. I also note that there are two ways in which AGR element in the embedded clause moves into the C-position: i) complementizer cliticization as in Borer (1989), or ii) V-movement in a usual sense. In the former case, the complementizer, which is a sort of clitic in morphological sense, first moves down to INFL, and then AGR-element moves into the empty C-position. In the latter case, AGR-element moves into the C-position as a part of the verb-complex (VC) created by V-movement. Since Korean is an agglutinate language which incorporates all verbal suffixes in the VC, I assume that the AGR-element in it can interact with the AGR-element in the matrix clause.

⁵ Note that pro may be coindexed with a dative argument if there is no honorific marker -si in the embedded clause. See 5.2.1. for details.

agreements; then, ii) AGR-S in the embedded clause receives the φ -features contained in AGR-S in the matrix clause, which this study calls as " φ -feature transfer" and is visible through honorific agreement ⁶ ; iii) AGR-S in the embedded clause, which is [+strong] with φ -features, license pro in the embedded clause. The whole process is shown in (4) :

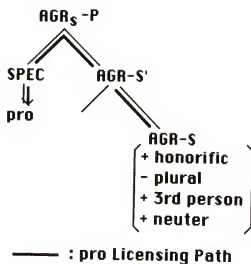
⁶ I assume, here, that honorific marker -si signals which argument (or NP) becomes the φ -feature transmitter.

(4)



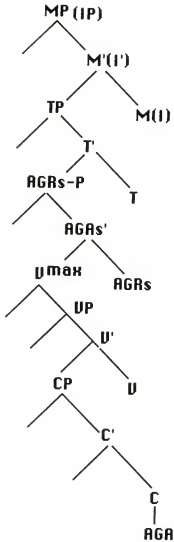
Thus, the pro-licensing mechanism in Korean does not deviate from the standard analysis proposed by Chomsky. The identification of pro in Korean is argued to be co-indexing AGR with pro. Once it is done, pro coindexed with AGR obtains ϕ -features through the typical SPEC-HEAD agreement given in (5).

(5)

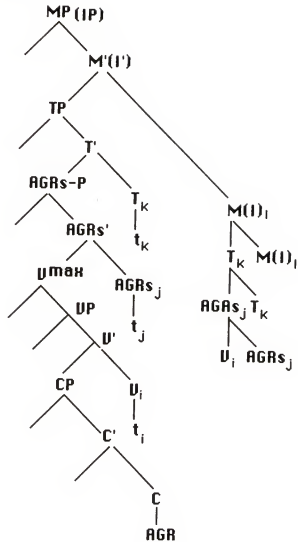


An immediate question to follow is why Korean has this mechanism while other languages like English do not. I argue that the verbal morphology is the main reason why this language does so. First, Korean is an agglutinate language which amalgamates all verbal suffixes into a verb. After V-movement, the D-structure given in (6a) will change into the S-structure given in (6b). I assume that NP-features in functional categories are accomplished through Spec-head AGREEMENT, and that V-features in functional categories are obtained through ADJUNCTION process.

(6a)



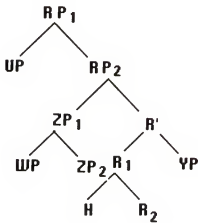
(6b)



There are two points that need to be addressed here. Because of the government transparency corollary, which states that the complex derived verb governs anything which was governed by the incorporated element before it became incorporated, $M(I)$ governs CP and V in the structural representation in (6b); hence, CP is in the checking domain of $M(I)$. Notice that Chomsky (1992) argues that there are two kinds of minimal domain in syntax: i) a Minimal Complement Domain (MCD) and a Minimal Checking Domain (or

Minimal Residue (MR)). The formal definition of the complement domain of α is defined as follows: The complement domain of α is a subset of the domain reflexively dominated by the complement of the construction. In the tree diagram below, YP is the complement domain of X because YP is the complement of X and YP is the only category that is reflexively dominated by YP. Notice that the notion of "reflexive domination" is used to include YP as well as other categories dominated by YP.

(7)



In the hypothetical structure in (1), repeated as (7), YP is the complement domain of R and UP, WP, ZP and H are the residue of R. Chomsky defines the Residue of α as the remainder of α . In other words, the Residue of R in (7) is its (R's) domain minus YP and what it (YP) dominates. Thus, the residue is a heterogeneous set, including the specifier (ZP and UP) and anything adjoined (WP, H).⁷ He further argues for the need to define the "minimal domain", which is given as follows: MIN(S) is the smallest subset K of S such that for any $\Gamma \in S$, some $\beta \in K$ reflexively dominates Γ . Thus in (7), the minimal

⁷ Chomsky (1992) assumes that adjunction is allowed to the maximal projection, its SPEC, or its head; UP, WP, and H in (7) are adjoined categories.

domain of R is {UP, ZP, WP, YP, H}; its MCD is YP, and its MR is {UP, ZP, WP, H}. The minimal domain of H, then, is {UP, ZP, WP, YP}, while its MCD is YP; and its MR is {UP, ZP, WP}. Chomsky calls the MCD of α its "Internal Domain" and the MR of α its "Checking Domain." He indicates that elements of the internal domain are typically internal arguments of α , while the element of the checking domain is typically involved in checking inflectional features.

Second, as in Borer (1989), I assume that AGR elements is attached to the empty C-position after C-cliticization.⁸ Thus, ϕ -feature transmission in Korean is available. I will use the simplified version of ϕ -feature transmission without elaborating the details hereafter.

5.1.3. On *pro* Movement

This section discusses the possible landing sites of *pro*. I assume that *pro* moves into a Spec-position at LF just like regular NP. The requirement that *pro* needs to move at LF owes to Chomsky's (1986a, 98) principle of Full Interpretation, which states that every element of PF and LF must receive an appropriate interpretation. Moon (1991), however, argues that the only option with which an object *pro* can be properly identified is when it moves to the Spec of the matrix CP and an indexed D-morpheme appears in Comp.⁹ Here the D-morpheme is assumed to be an identifier of *pro* in Spec(C). Moon also claims that

⁸ I suggest that there are at least two ways that Korean raises its AGR element(s) to the C-position: i) C-cliticization, and ii) V-movement. The former approach is analogous to Borer's. Since complementizer in Korean is not an independent word, Borer argues, it needs to be cliticized into Infl, which makes the C-position empty. The latter approach is to assume that all verbal suffixes including AGR elements raise to the C-position at S-structure, which makes Infl (AGR elements specifically) in the matrix clause to check the AGR elements in C. Thus, I assume that Moon's D-morpheme is an abstract identification of these AGR elements in Korean.

⁹ As in Yoon (1990), Moon assumes that Spec(C) position is an A-position.

this type of pro does not violate the disjoint requirement of pronouns because there is no NP c-commanding it. The current study, however, observes that there are some problems with her analysis when we consider sentences with dative arguments. Examine the following sentence in (8):

(8) [Korean]

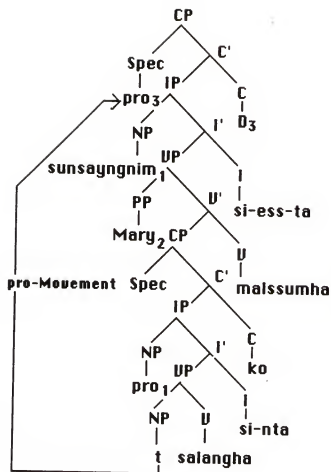
Sensayngnim₁-**kkese** Mary₂-eke [[e₁ e₂ salangha-**si-n-ta**] ko]
 (Hon)Nom Dat love-Hon-Dec Comp

malssumha-**si**-ess-ta.
 say-Hon-Past-Dec

'(Her) teacher said to Mary that (he) loves (her).'

If one applies pro-Movement to (8) as Moon indicated, he will get the following representation.

(9)



Since sentence (9) is grammatical, one could assume that the *pro* object moves to the Spec(C) to get an index from the D-morpheme as indicated in (9). Whatever index *pro* gets from the D-morpheme, it must be fine if Moon's explanation is correct. However, if *pro* gets an index different from the dative argument *Mary-e*, the sentence becomes ungrammatical.¹⁰ Based on this argument, I argue that *pro* moves into the Spec of AGR-P in Korean.

¹⁰ Another line of thinking is to use a feature [+logo] as indicated in Moon (1991), which claims that *malhata* 'tell, say' is a logophoric verb which takes a speaker as its subject and the subject NP of it can be marked by [+logo]. However, it will not fix the problem either. Since *pro* subject in an embedded clause gets a theta role of [+Agent], it will not be marked by [+logo], while *pro*

5.2. Functional Categories in Korean

5.2.1 Function of AGR-P in Binding

In the preceding section, I have proposed that Korean, like all other languages, contains AGR-P at D-structure representation. An immediate reaction to this claim may be to ask how one can explain binding properties of Korean reflexive pronouns. Putting it in another way, can AGR provide an accessible SUBJECT as in Rich Infl languages? Observe the following:

(10) [Korean]

a. Sunsayngnim _i -kkese	Mary _j -eke	[[EC _i / _j	cakicasin-ul
teacher-Nom (Hon)	Dat		self-Acc

salangha-si-nta] ko]	malssumha-si-ess-ta.
love-Hon-Decl Comp	say-Hon-Past-Decl

'(My) teacher told Mary that (he) likes himself.'

b. Sunsayngnim _i -kkese	Mary _j -eke	[[EC _i / _j	cakicasin-ul
teacher-Nom (Hon)	Dat		self-Acc

salangha-nta] ko]	malssumha-si-ess-ta.
love-Decl Comp	say-Hon-Past-Decl

'(My) teacher told Mary that (he/she) likes him/her-self.'

When there is a morphologically realized AGR-S in Korean as in (10a), i.e., when there is a honorific marker *-si-* in the embedded clause, the binding domain of the Korean reflexive pronoun cakicasin becomes the embedded clause. When there is no morphologically realized AGR-S as in (10b), the local binding domain extends to the matrix clause opening up the possibility of getting an index from a higher c-

object can be marked by [+logo] because it carries a theta role of [+Patient]. Consequently, her analysis predicts the following indexing:

* Sunsayngnim₁ Mary₂ [[pro₁ pro₂ salangha-si-nta]ko] malssumhasiessta.
However, the coindexation given above is not a possible analysis.

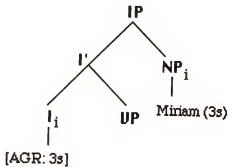
commanding NP, which indicates that AGR-S needs to get phi-features from a c-commanding NP in order to be an antecedent, and that although AGR-P is present across all languages, whether an AGR-S functions as SUBJECT or not depends on the state of the AGR. If the AGR is strong enough, i.e., if AGR contains phi-features, it can provide a SUBJECT for an anaphor. But if the AGR does not contain the phi-features, it cannot provide a SUBJECT for an anaphor.

5.2.2. Spec-Head Agreement in Korean

Georgopoulos (1991, 136) argues that all agreement is based on specifier-head co-indexing and that the abstract structural basis for agreement exists whether or not there is overt morphological evidence of it. Subject agreement in Palauan is interpreted as agreement between I and Spec(I), as the following diagram illustrates:

(11) [Palauan]

a.



b. ng-'illebed-ii a 'obok-uk a Miriam
 3s-hit-3s brother-1s (name)
 'Miriam hit my brother.'

In the diagram above, the agreement relation is assumed to be based on coindexing where the index is not referential but rather an indicator of shared features. As in Georgopoulos, I will assume that agreement is a result of specifier-head co-indexing for the following reasons:

First, Korean shows subject-verb agreement when an NP in subject position carries a honorific marker -kkese. Note the following:

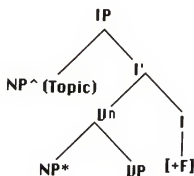
(12) [Korean]

- a. Kim kyosoo-nim-**kkese** Mary-lul palapo-si-ess-ta.
 Porf. Kim-Nom(Hon) Mary-Acc see-Hon-Past-Decl.
 'Professor Kim saw Mary.'
- b. * Chulsoo-ka Mary-lul palapo-si-ess-ta.
 Chulsoo-Nom Mary-ACC see-Hon-Past-Decl.
 'Chulsoo saw Mary.'

As sentence (12a) illustrates, when an honorific subject appears, it is necessary to add an honorific marker to the verbal stem. The honorific marker -si, however, cannot be used if the subject NP is not honorific as in (12b). Sentence (12b) may be considered as a possible sentence, but cannot be honorific. If the subject NP is a normal NP, the verbal honorific marker does not appear in the sentence.

Second, a type of SPEC-head agreement is observed in Korean topicalization. According to Kim Y-S (1988:130), Korean topicalization is claimed to be an instance of a licensing process. She assumes that the Korean topic feature [+topic] is one of the agreement features demarcated in the INFL node. She claims that the topic feature [+topic] is morphologically realized as affix '(n)un' in the INFL and is spelled out as 'XP+nun' by a rule of Affix Hopping at PF: XP [+definite] + Affix 'nun' = topic XP.

(13)



Third, Suh, C-M (1989) observes an interesting agreement phenomenon between the Wh-word and the Wh-question morpheme '-ko' or its allomorph '-o' in Kyungsang dialect of Korean. He concludes that -(k)a is the interrogative morpheme which is used in yes/no questions and that -(k)o is the Q-morpheme used in Wh-questions. Thus, the following sentences are not Wh-questions because the Q-morpheme is not present in the sentences.

(14) [Korean]

- a. Swuni-ka etey-ey ka-as-n(i)-a?
 Nom where-Loc go-Past-Q
 'Did Swuni go somewhere?'
- b. Wuncey kwukmin ttus mul-e po-ko cengchiha-as-n(i)-a?
 when people's opinion ask-after govern-Past-Q
 'When did they govern the nation asking people's opinion?'
 (They always govern the nation without asking people's opinion.)

An important thing to note in his claim is that not all sentences which involve a Wh-phrase are Wh-questions. Only sentences which include a Q-morpheme can be interpreted as Wh-questions.

5.2.3. Enriched INFL Hypothesis and IP-structure in Korean

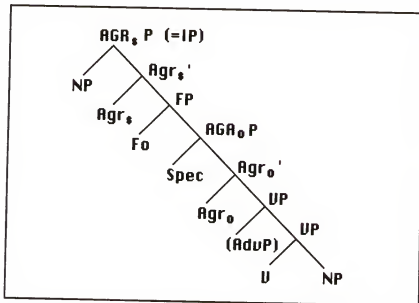
Chomsky (1989) proposes that I (nflection)-node should be split into other functional categories such as T (ense) phrase, Agr (eement) phrase and Neg (ation) phrase to represent verb movement, i.e., French V-movement and English V-movement, in an economic way. Chomsky, especially, points out the following:

- (15) i. There is an AGR position intervening between tense and the V.
 ii. This element is distinct from the subject-agreement element.
 iii. Object agreement, just like subject agreement, is based upon a government relation between AGR-O and the noun phrase.

In his system, structural case is generally correlated with agreement and reflects a government relation between the NP and the appropriate AGR element. Thus, subject-verb agreement is associated with nominative case and is determined by

the relation of the specifier to the AGR-S (the head of AGRs-P/ AGR-S"), while verb-object agreement is associated with accusative case and is determined by the relation of the NP to the AGR-O, (the head of AGR0-P/ AGR-O"), either in specifier position or adjoined to AGR-O. Chomsky, based on the arguments above, proposes the following IP structure of English, which is assumed to be universal across languages in that all these functional categories appear somewhere in the tree:

(16)



The Structure of IP (Chomsky 1988; (28))

In the Principles and Parameters framework, it is argued that language variation is to a large extent determined by functional categories (Fukui and Speas 1986; Baker 1988; Pollock 1989; and Ouhalla 1991). Chomsky (1989, 2) puts it this way: "If substantive elements (verbs, nouns, etc.) are drawn from an invariant universal vocabulary, then only functional elements will be parameterized." In the same vein of thinking, Borer (1983) claims that parameters are associated with individual lexical items and that the set of lexical

items with which parameters are associated is restricted to the class of inflectional/functional categories. Ouhalla (1991, 8) claims that functional categories are the "flesh and blood" of grammar in that they are the locus of grammatical information which determines the structural representation of given constructions, as well as the various grammatical processes they may undergo. According to him, functional categories obtain three major lexical properties, listed here under (17):

- (17) (i) Category-selectional properties
- (ii) Morphology-selectional properties
- (iii) Grammatical features/properties

First, category-selection (C-selection) property may be parametrized in that the ability of a functional category to select a specific category in one language may not be generalized across languages. For example, in VSO languages TNS c-selects AGR, while in SVO languages the reverse relation holds. It is argued that this difference in the c-selectional properties of AGR and TNS is responsible for the surface word order difference between the two types of languages. The current study assumes that Korean shows the similar pattern with VSO languages in that TNS c-selects AGR. The mirror principle (Baker, 1988), which states that surface word order reflects the order of syntactic derivation, also strongly suggests that TNS c-selects AGR because honorific AGR element always appears left from TNS in Korean. Since Korean is a head-final language, the TNS element appears higher than the AGR element in the structural representation.

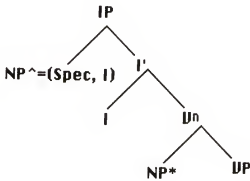
Second, as Baker (1988) points out, differences in the morphology-selection (m-selection) properties of functional categories are also responsible for some major typological variations. For example, the presence of an affixal category in a given construction forces the application of movement processes which rearrange the order of constituents. I argued that m-selectional properties in Korean are different from those of English. Notice that English complementizer that does not

cliticize while Korean complementiser *-ko* does because *that* is an independent word and *-ko* is an affix. Finally, a given functional category may obtain one value of a specific grammatical feature in one language, and a different one in another.

5.2.4. VP-Internal Subject Hypothesis in Enriched INFL Hypothesis

Koopman and Sportiche (1988:15) propose the following analysis for the position of the subject:

(18)



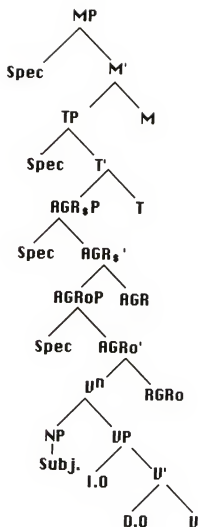
According to Koopman & Sportiche, there are two ways that an NP can obtain case: case is assigned to an NP either i) under government by a structural case assignor or ii) by agreement of the NP with a case assigning head. Which of these two case assigning options is realized depends on the particular category X^0 , the head H it contains, and the language L. For example, tensed INFL in English only assigns case by agreement, forcing raising of NP* when it needs case, while tensed INFL in Arabic and Irish/Welsh can assign Case structurally, permitting lexical NPs to surface in NP*. Koopman & Sportiche also indicate that Korean is the second type. Following K & S, I assume that Korean subjects, objects, and

indirect objects are generated inside of VP at D-structure, and that they move into s Spec-position of the proper AGR-P.¹¹

Before dealing with the formal licensing and identification device, I would like to note the following characteristics of Korean. First, the nominative case is not assigned by the [+Tense] element but by AGR element in Korean (Yoon J-Y 1990). Second, a dative argument triggers the honorific agreement in the embedded clause. Third, as Ahn and Yoon (1989) point out, TP is not the highest node of a sentence in Korean, but MP is the highest node in a simple sentence. To address these linguistic facts in Korean, I would like to propose a Korean IP structure based on Chomsky (1989) and Pollock (1989). Compared to Chomsky's model, the proposed model includes the position of indirect object in [Spec, VP] and TP is located above AGR-P. Another big difference between the two models lies in the position of the subject in that latter model adopts the VP-internal subject hypothesis. I assume that AGRo-P occurs only when there is a dative argument in the higher clause.

¹¹ LF movement of the argument may cause the extraction path crossing of the arguments, but as Chomsky (1992) argues for, it is assumed that raising the arguments is not problematic.

(19)



5.3. Extending the Minimalist Program

5.3.1. Licensing *pro* by [+underspecified/+pronominal]AGR

One of the big differences between *pro* licensing by [+honorific] AGR and that by [+underspecified/+pronominal] AGR lies in the fact that AGRs in the embedded clause may not be able to pick a proper antecedent. In other words, AGRs in the embedded clause may license *pro* in its SPEC position when it

obtains φ -features, but there is no way that one can specify the controller NP.

Let's consider sentence (10b) again, which is repeated as (20) :

(20) [Korean]

Sunsayngnim _i -kkese teacher-Nom (Hon)	Mary _j -eke Dat	[[EC _i] _j	cakicasin-ul self-Acc
salangha-nta] ko] love-Decl Comp	malssumha-si-ess-ta. say-Hon-Past-Decl		

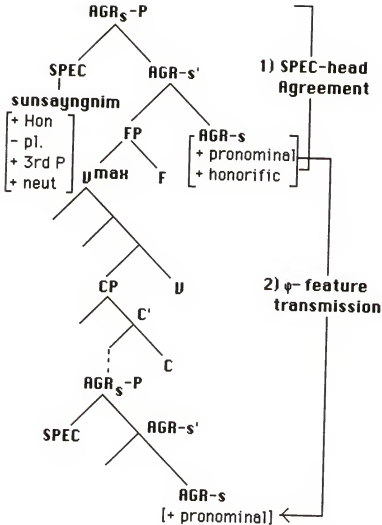
'(My) teacher told Mary that (he/she) likes him/her-self.'

As the indices indicate, pro may be controlled either by the matrix subject Sunsayngnim_i or by the dative argument Mary_j.¹² Following Hermon and Yoon (1989), I assume that AGR in this case is [+pronominal] in its nature, which indicates that [+pronominal] AGR may license pro in its SPEC position through SPEC-head agreement only if it obtains φ -features.¹³ I argue that AGRs in the embedded clause in (20) can select freely an NP from which it obtains the φ -features. In my analysis, pro licensing is no longer a matter of parametrization. Instead, parametrization may conceivably be in the availability of φ -feature transmission. Following Hermon and Yoon (1989), I suggest that languages of AGR specified by [+pronominal] may have this option. Returning to the main issue, pro licensing in this category contains two cases: i) pro licensing by the matrix subject, and ii) pro licensing by the dative argument (GOAL). Let's consider the former case :

¹². Notice that Moon (1989, 1991) does not account for this, and that Huang (1984, 1989) and Cole (1987) do not explain it, either.

¹³. I suggest that φ -features of the AGR are obtained through the process indicated in (6a) and (6b) in this chapter.

(21)

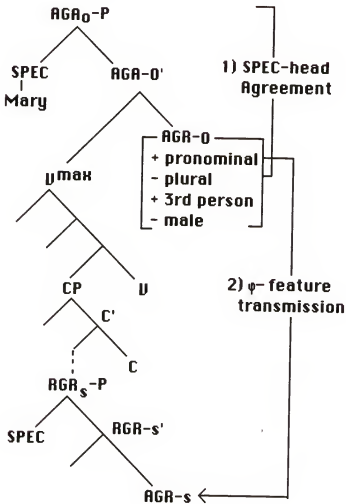


As in the case of [+honorific] AGR, [+pronominal] AGR gets ϕ -features from the subject NP sunsayngnim through SPEC-head agreement. Once the first step is done, the second step of ϕ -feature transmission activates. After these two processes are done, the pro licensing becomes trivial in that it can be done as in (21). To explain the latter case, I will assume that the dative argument (DA) is also raised to the SPEC of AGR.¹⁴

¹⁴ I assume that dative argument (DA) is generated as [Spec, VP] as in Koopman and Sportiche (1988). In Korean, the DA may take accusative marker -(u)ul, which indicates that the dative argument may move either at S-structure or at LF. I suggest that if DA moves at S-structure, it will be

After the raising of DA, the LF representation of (20) is the following :

(22)



The first step represents that AGR-O obtains ϕ -features from raised DA Mary through SPEC-head agreement, and the second step refers to the ϕ -feature transmission process. Notice, as Chomsky indicated, that AGR-S and AGR-O interact with each other in this case.

marked by accusative case. But, LF-movement of the DA may not cause case-marker change.

5.3.2. Licensing Discourse Bound *pro* by [+pronominal] AGR

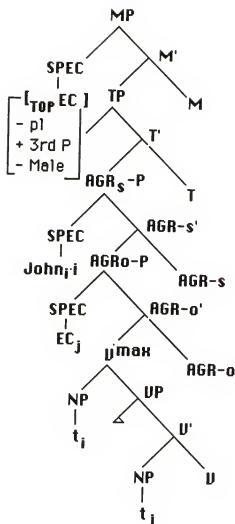
As I argued in Chapter 3, Korean may allow *pro* bound by discourse topic. In this subsection, I will show how this kind of *pro* can be licensed. Notice, first, it is argued in Chapter 6 that the topic phrase in Korean is generated within IP, presumably in the SPEC of MP. Second, the topic XP may be null (or empty). Third, it may contain φ -features if it is used in a proper context. If Moon's (1991) claim is correct, the null topic obtains φ -features from the 'D-morpheme' which is assumed to be somewhere in C. Consider the following Korean examples.

(23) [Korean]

- a. Nwukwu-ka Mary_i-lul po-ass-ni?
 who-Nom Mary-Acc see-Past-Q
 'Who saw Mary_i?'
 b. John-i *pro*_i po-ass-ta.
 John-Nom see-Past-Decl
 'John saw (her_i).'

In (23), since *pro* is automatically understood as *Mary*, we can assume that *pro* carries φ -features of *Mary*. To explicate the licensing mechanism of this *pro*, I propose the following LF representation :

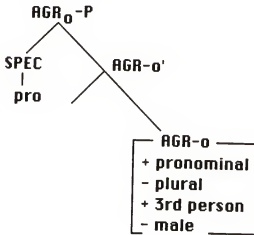
(24)



(24) can be interpreted as follows. The zero-topic is an EC which contains all φ -features of the discourse topic, i.e., Mary in this case. The subject NP John and the object NP pro are raised to the SPEC of AGR-S and the SPEC of AGR-O, respectively, as Chomsky (1992) suggested. Notice that this raising process is compulsory for case purpose. AGR-S may obtain φ -features from the subject NP John. AGR-O, however, is not strong enough to license pro in its SPEC position. Thus, I argue that AGR-O obtains φ -features transmitted from M(ood). As I argued in the previous section, topic XP is licensed by mood markers, and that p-feature transmission is obtained by the movement of AGR-O to the M (ood) node.

The licensing itself indicates that there is SPEC-head agreement between the null topic and the Mood marker in (24). Thus, it is natural that we assume that the mood marker obtains φ -features through SPEC-head agreement. Once this process is finished, the φ -features contained in mood are transmitted to AGR-O. They may not be transmitted to AGR-S because AGR-S is already specified for φ -features. Thus, the economy principle is working in this case. Once the process of obtaining φ -features is accomplished through this procedure, pro becomes licensed.

(25)



As Chomsky (1992) argued, pro is licensed by [+strong] AGR. The only uncertainty boils down to the question of parametric variation of [+pronominal] AGR.¹⁵

5.4. Licensing and Identification of Null Objects

The goals of this section are i) to discuss James Huang's recent proposal regarding empty nominals with reference to Korean and show that it, as it stands,

¹⁵ I would like to suggest that some cool languages such as Korean and Japanese may have an option that the zero topic discharges φ -features to its X⁰-category.

is empirically inadequate; ii) to propose a new analysis of the syntactic recoverability of null objects in Korean; and iii) to present some theoretical implications of my analysis on parametric variation for Chomsky's principles and parameters approach in syntax.

In section 5.4.1., it is argued that Huang's analysis on null object in Chinese cannot be extended to Korean data because it contains two major problems: i) It wrongly predicts that the empty nominals are not pronominals; ii) It does not provide any identification device for *pro* object. Section 5.4.2. argues that Korean honorific system shows not only subject-verb agreement but also object-verb agreement. Especially when there is a DA in the matrix clause, the DA behaves like a controller of the honorific agreement in the embedded clause. Section 5.4.3. discusses the function of AGR-O and, in particular, Georgopoulos's (1991) proposal which argues that THEME argument can never trigger object agreement if there is a GOAL argument. Adopting Georgopoulos's suggestion in section 5.4.4., I propose the licensing and identification of null objects in Korean, where null pronominal objects are argued to be identified by [+strong] AGR just like null pronominal subjects.

In sum, I point out some problems with Huang's analysis on null objects and propose a new analysis which remedies the problems. In doing so, I support Georgopoulos's (1991) approach to A-agreement and Chomsky's (1989) enriched INFL hypothesis. Building on the enriched INFL hypothesis, I suggest i) the Korean [+deictic] agreement system is contained in honorifics and it licenses and identifies *pro* in Korean; ii) the *pro*-drop parameter can be simplified as a single clause: *pro* must be licensed and identified by [+deictic] AGR (i.e., AGR_e and AGR_o); and iii) Korean contains both AGR_e-P and AGR_o-P.

- (27) Chinese ECs a) Subject EC : pro
 b) Object EC : variable

However, this paper observes some counterexamples to the claim made by Huang (1984, 1987, 1989), Hasegawa (1984), and Lee (1987). As in Cole (1987), the current analysis advocates the claim that the object EC in Korean is pro.

Consider the following:

(28) [Korean]

- a. *John₁-i [[Mary₂-ka e₁ poassta] ko] cwucanghayssta.
 Nom Nom saw Comp claimed
 'John claimed that Mary saw (him).'
- b. [e₃] John₁-i [[Mary₂-ka e₃ poassta] ko] cwucanghayssta.
 Nom Nom saw Comp claimed
 'John claimed that Mary saw (someone).'
- c. John₁-i [[Mary₂-ka e₁ ttayleyssta] ko] cwucanghayssta.
 Nom Nom hit Comp claimed
 'John claimed that Mary hit (him).'
- d. John₁-i Mary₂-eke [[e₁ e₂ salanghanta] ko] malhayssta.
 Nom Dat love Comp said
 'John said to Mary that (he) loves (her).'

According to Huang (1984, 1987 and 1989), the ungrammaticality of (28a) is attributed to his GCR (Generalized Control Rule: Co-index an empty pronominal with the closest nominal element) combined with Chomsky's (1981) Binding Principle B. In (28a), the \emptyset should be coindexed with Mary because of GCR, but this coindexation violates Chomsky's Binding Condition B which bars null pronoun from being bound in its smallest functional complex. (28b) is ruled in because the EC is coindexed with a discourse topic. (28c) and (28d), however, pose a problem for Huang's analysis. Due to the θ -criterion, this EC cannot be a NP-t. It may not be a variable since the antecedent NP is not in topic position (i.e., not in A-

EC in the object position, it should be a discourse topic. Lee H-B (1987) claims the same thing for Korean.

position). It cannot be a PRO either because it appears in a governed position. A natural conclusion here is to assume it to be pro. Examining (28a)-(28d), we note:

- (29)
- i. When there is no Dative Argument (DA) in the matrix sentence and the sentence does not trigger logophoric reading (28b), the null object can be best categorized as a variable or null epithet (Huang, 1991).
 - ii. When there is no DA in the matrix sentence and the sentence triggers logophoric reading (28c), the null object can be classified as an empty logophoric pronoun, i.e., as an empty counter part of logophoric caki in Korean.
 - iii. When there is a DA in the matrix sentence (28d), the null object can be classified as pro.

As for the syntactic recoverability, (29i) does not pose a problem (Huang 1984). However, (29ii) poses a problem with Huang's analysis in that it does not allow pro in the embedded object position. the GCR dictates that e must have the same index with the embedded subject Mary, but this coindexation immediately blocks the possibility of being a pronominal. One solution to this problem is stipulating that the GCR doesn't apply in this case. His analysis faces a serious problem with (29iii). If the GCR is applied to (28d), Mary and the two ECs must have the same index, which forces the EC in object position to be an anaphor. In sum, Huang's analysis faces two major problems: i) it wrongly predicts that empty nominals in object position are not pronominals; and ii) It does not provide any identification device for pro object.

5.4.2. Honorific Agreement in Korean

Korean shows subject-verb agreement when an NP in subject position carries a honorific marker -kkese. Note the following:¹⁸

¹⁸ Cho (1990) also argues that Korean has an AGR-P, a maximal projection of honorific AGR, and it is commonly believed that Korean, just like Japanese, shows subject-verb agreement with respect to honorific markers.

Kim sensayng-nim-i	chayk-ul	sa-si-ess-ta.
teacher-Hon-Nom	book-Acc	buy-Hon-Past-Dec

(30) [Korean]

a. Kim kyosoo-nim-**kkese** Mary-lul palapo-si-ess-ta.
 Prof. Kim-HON-NOM(HON) Mary-ACC see-HON-PAST-DEC
 'Professor Kim saw Mary.'

b. * Chulsoo-ka Mary-lul palapo-si-ess-ta.
 -NOM Mary-ACC see-HON-PAST-DEC
 'Chulsoo saw Mary.'

As sentence (30a) illustrates, when an honorific subject appears, it is necessary to add an honorific marker to the verbal stem. The honorific marker -si, however, cannot be used if the subject NP is not honorific as in (30b). Sentence (30b) may be considered as a possible sentence, but cannot be honorific. If the subject NP is a normal NP, the verbal honorific marker does not appear in the sentence. Interestingly enough, the honorific agreement appears not only between subject and verb, but also between topic NP and verb.¹⁹ I further argue that the object-verb agreement is also visible in Korean honorifics. Note the following:

'Professor Kim bought a book.'

As the sentence given above illustrates, if there is a subject NP which is marked by a honorific marker -nim, the verb must take the honorific morpheme -si.

¹⁹ Although the topic marker -nun is attached to the subject NP in the following sentence, it is perfectly grammatical in Korean.

Kim kyosoo-nim-un muscangi-si-ta.
 Prof. Kim-HON-TOP gentleman-be(HON)-DEC
 'Professor Kim is a gentleman.'

According to Kim (1988:130), Korean topicalization is an instance of a licensing process. She assumes that Korean topic feature [+topic] is one of the agreement features appearing in the INFL node. She claims that the topic feature [+topic] is morphologically realized as affix '(n)un' in the INFL and is spelled out as 'XP+nun' by a rule of Affix Hopping at PF: XP [+definite] + Affix 'nun' = topic XP.

(31) [Korean]

a. Apenim-kkese **cinci-lul** **tusinta** / *meknunta.
 (my) father-Hon dinner(Hon)-Acc eat (Hon)/eat
 '(My) father is having a dinner.'

b. Naytongsayng-i **pap-ul** **meknunta** / *tusinta.
 (my) brother-Nom dinner-Acc eat / eat (Hon)
 '(My) brother is having a dinner.'

First, the sentences in (31) clearly show that the honorific verb not only selects a THEME argument as its object, but also agrees with its object. Second, Korean honorific markers are sensitive to both nominative arguments and DAs.

(32) [Korean]

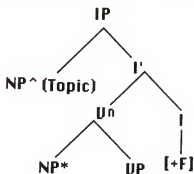
Sensayngnim₁-**kkese** Mary₂-eke [[e₁ e₂ salangha-si-n-ta] ko]
 (Hon)Nom Dat love-Hon-Decl Comp
 malssumha-si-ess-ta.
 say-Hon-Past-Decl

'(Her) teacher said to Mary that (he) loves (her).'

(33) [Korean]

Haksayngtul₁-i sensayngnim₂-**kke** [e₂ e₁ salangha-si-nya-ko]
 students-Nom teacher-Dat(Hon) love-Hon-Q-Comp
 mul-ess-ta.
 ask-Past-Decl

'The students asked to (their) teacher if (he) loves (them).'



I assume that the Korean mood markers are specified for [+F] and they are the licensors of the topic position.

Third, the agreement system in honorifics provides a parsing strategy for ordinary expressions in Korean which lack visible morphological agreement. Note that the referential indices are the same in (26d) and (32). Finally, the referential interpretation may be controlled by the mood markers, i.e., **-nya** in (33) changes the indexing.

5.4.3. Function of AGR-O

Chomsky (1989, 1992) suggests that sentences can contain the projection of AGR0 (object agreement), whether the predicate is transitive or intransitive, i.e., whether its specifier position is used for case-assignment or not. Along the line of Chomsky, Georgopoulos (1991) argues that her analysis on Palauan obtains a potential for agreement in UG, proposing the following:

$$(34) \quad [VP \ V_i \dashv [Spec_v]_i / [VP [Spec_v]_i \dashv V_i] \rightarrow [IP \ I_i \dashv [Spec_I = \theta]_i / [IP [Spec_I = \theta]_i \dashv I_i]]$$

(34) can be interpreted that if there is specifier-head coindexing in VP, then there must be specifier-head coindexing in IP involving a thematic Spec(I). French (1991, 110) also indicates that AGR₀-P has to be projected every time there is a transitive verb, quoting Landa (1990), who assumes AGR₀-P in Basque even though there is no clitic or agreement morpheme in the language.

Following Chomsky and others indicated above, I argue that Korean sentences also project AGR₀-P and that argument NPs must be in the specifier position of a functional category and must agree with its head to receive a theta role. Consequently, a subject NP needs to be raised/externalized to Spec(AGR-S) and agrees with its head AGR-S at LF. Likewise, an object NP also needs to be raised to the Spec(AGR-O) position and agrees with its head AGR-O. In addition, AGR-Ps in Korean not only carry underspecified phi-features but also [+/- honorific] feature matrix. For example, if AGR-S contains [+ honorific] feature, the

subject NP must be a referential expression which designates someone honorified in the sentence. Georgopoulos (1991) claims the following:

- (35) i) In order for the object to trigger agreement, it must be in specifier position.
 ii) When two arguments are mapped inside the maximal projection of some head X (its government domain), and some argument controls agreement, that argument is always in the specifier position.
 iii) A simple transitive verb that externalizes its subject has a nonthematic (VP) specifier, which is available to object raising.

(35i) indicates that agreement is strictly structural in that only an element in the specifier position can trigger agreement. (35ii) states the hierarchical relations between THEME and GOAL. Putting it another way, it means that a THEME argument can never trigger object agreement if there is a GOAL argument. (35iii) suggests that a thematic argument is mapped to the specifier of a ditransitive verb, whence it can trigger object agreement.

5.4.4. Licensing and Identification of Null Objects in Korean

Before I give my own analysis on the issue of null objects, I would like to summarize the following:

- (36) i) pro moves to the SPEC of AGR-P (Chomsky, 1992)
 ii) There is more than one θ /A-position in D-structure representation.²⁰ (Chomsky, 1989)
 iii) In order for the object to trigger agreement, it must be in specifier position. (Georgopoulos, 1991)

Now let's think about a possible machinery for pro identification. As in Chomsky (1981), I assume that pro gets the feature matrix [+ pronominal, -anaphor], which

²⁰ If we adopt Chomsky's enriched INFL-hypothesis, all specifier positions of the functional categories such as Spec(M), Spec(T) and Spec(AGR) are theta-bar A-positions.

indicates that pro must be free in its local domain D. In the following sentence, pro is free in D.²¹

(37) [Korean]

Sensayngnim₁-**kkese** Mary₂-eke [[e₁ e₂ salangha-si-n-ta] ko]
 (Hon)Nom Dat love-Hon-Dec Comp
 malssumha-si-ess-ta.
 say-Hon-Past-Dec
 '(Her) teacher said to Mary that (he) loves (her).'

Since both of the ECs are free in their local domain, it can be said that they are pro. As I argued in the previous section, pro needs to be interpreted. How can we give the proper coindexation to the sentence? First, I note that the [+ honorific] feature assigned to AGR-S correctly guarantees/identifies coindexation of the matrix subject and the embedded subject. Second, the dative argument provides the antecedent of the object pro as a last resort.²² The identification process is represented in (38). An immediate question related to the identification process is why the index of the embedded subject is dependent to the index of the matrix subject. I would like to point out that it is a property of Korean AGR. Hermon and Yoon (1989) point out that the AGR of the null subject languages can be classified into four groups: i) fully Specified AGR, ii) underspecified/[+pronominal] AGR, iii) partially Specified/[+ anaphoric] AGR and iv) person lacking AGR. I argue that languages with the second type of AGR need a c-commanding NP to get phi-features. Although [+ honorific] AGR licenses and identifies the subject pro in the embedded clause, it still needs phi-features from the matrix NP. As I argued in 5.1.2., phi-features in the matrix AGR-node are transmittable to the embedded

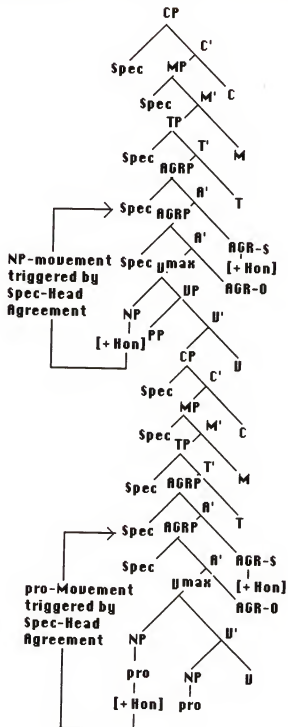
²¹ I assume that the embedded clause which is tensed becomes the local domain D for the empty pronominals.

²² Note also that if there is no argument which can provide an antecedent of pro object in the same situation, i.e., if there is no DA all others being unchanged, pro object gets an arbitrary reading. It may be interpreted as a discourse topic or arbitrary person.

AGR-node because the AGR-element in the embedded clause is raised to the empty C-position, which is within the Checking Domain of the matrix AGR-node.. Notice that Korean functional categories are affixes which obligate verb-movement.²³

²³ Note that functional categories have m-selectional property as well as c(ategory)-selectional property and grammatical features. See Ouhalla (1991) for more discussion on this.

(38) Sensayngnim₁ Mary₂ [[pro₁ pro₂ salangha-si-nta]ko]
malssumhasyessta.



The last question that must be answered is how we explain the control effect in a normal sentence, i.e., a sentence without honorific marker, in Korean. I would like to claim that the honorific agreement system provides the most natural coindexation. For example, in sentence (33), it is DA that carries [+ Hon] feature, hence AGR-O carries [+ Hon] feature, which indicates that the pro subject in the embedded clause must be identified by DA rather than the matrix subject. Thus, it is not a problem if there is honorific agreement between a subject and a verb. However, Korean allows an ordinary sentence without honorification, and we can get the same coindexation with (33).

(33) [Korean]

Haksayngtul₁-i Sensayngnim₂-**kke** [e₂ e₁ salangha-**si-nya**-ko]
 students-NOM teacher-Dat(HON) love-HON-INT-COMP
 mul-ess-ta.
 ask-PAST-DEC

'The students asked (their) teacher if (he) loves (them).'

(33)' [Korean]

Haksayngtul₁-i Mary₂-**eke** [e₂ e₁ salangha-**nya**-ko]
 students-NOM Mary-Dat(HON) love-INT-COMP
 mul-ess-ta.
 ask-PAST-DEC

'The students asked Mary if (she) loves (them).'

I argue that the proper coindexation is achieved by the same mechanism as in the case of (33).

5.5. Conclusion

So far I have argued that some functional phrases are existent and behave like dynamic elements in Korean syntax although the existence of functional categories such as AGR-P's is minimally attested in its morphology. First, if this analysis finds a solid foundation in Korean syntax, the hotly-debated topic of pro-Drop parameter may be simplified in a single clause: pro must be licensed and

identified by AGR. Second, this paper advocates that Chomsky's (1989) proposal for Split-INFL hypothesis and case-checking at LF facilitates syntactic analysis in languages like Korean also. Finally and most importantly, I have argued that Chomsky's (1992) Minimalist Program offers a strong ground for the current analysis, and that Georgopoulos's (1991) claim is correct in that if there are two internal arguments in VP the DA gets the priority in triggering agreement.

CHAPTER 6 TOPICALIZATION IN KOREAN

In the previous two chapters, null pronominal elements were argued to be licensed and identified by [+strong] AGR in Korean, which was assumed to be universal across all languages. Pro-drop parameter thus has been revised in that parametric variation of languages occurs not on pro-licensing and identification per se, but on a mechanism by which a language obtains [+strong] AGR. It is also argued that Korean has a φ -feature transfer mechanism which makes [+pronominal, +unspecified] AGR [+strong] AGR.

In this chapter, it is argued that an EC in object position bound by a null topic is not a variable, but pro. This claim is supported by the following linguistic facts in Korean. First, the null topic is not generated in [Spec, CP] position in Korean. Second, topic is a phonological realization of the feature [+topic] discharged from Infl.¹ Third, since the null topic is generated in [Spec, IP], the position of subject, it is very difficult to argue against the claim that null topic is in A-position.

Huang (1984, 1987, 1989) consistently claims that some East-Asian languages such as Chinese and Korean are pro-drop languages which allow phonologically null arguments (pro) in the subject position of embedded sentences. Although he observes phonologically null arguments in the object position, he argues that the null elements (or ECs) are variables rather than pros. The crucial evidence that he provides for his argument is the linguistic fact that the ECs in the object position should be co-indexed with a topic NP, which may be lexical or

¹. Mallén (1992) argues for the similar claim in Spanish.

non-lexical, i.e., phonologically null zero-topic. The underlying assumptions of this claim are the following:

- (1) a. Topic NPs are generated by the movement of a phonologically null WH-operator.
- b. The surface position of Topic NP is not in A-position but in A'-position.

First, the theoretical implication of (1a) is that we may expect to observe topic-island effects on a par with Wh-island effects. If there is a topic-island effect observed in Korean topic construction, then it may be logically concluded that some topic constructions are not generated by WH-operator movement. Furthermore, I argue that topic constructions frequently violate subadjacency. This property also necessitates a new analysis on the topic construction in Korean. Second, if it is the case that topic NPs are in A'-position consistently, there is no way to explain why topic NPs can provide proper antecedents of the Korean anaphors *caki* and *casin*.

In order to give a plausible answer to the problems pointed out above, I will give a detailed analysis on topicalization in Korean. The first section will clarify the properties of topic in Korean and the relation between the topic marker *-(n)un* and the topichood. In this section, I argue that not all NPs which are marked by topic marker *-(n)un* are topics, but some topic-marked NPs have nothing to do with topicalization. The second section examines four possible options in explaining Korean topicalization and argues i) that WH-operator movement analysis is not available for topic-marked NPs; ii) Kang's (1986) analysis on Korean topicalization as an equivalent of English left-dislocated constructions has some problems also; iii) that topicalization as an instance of A'-scrambling proposed by Saito (1985) and Kuroda (1985) is not a good solution because topic NPs in Korean frequently behave as an antecedent of reflexive pronouns; iv) that topic NPs in Korean do not appear in an adjoined position but in the SPEC of IP position, as

Kim Y-S (1988) points out. Especially the honorification phenomenon in Korean strongly supports the current hypothesis. In the final section, theoretical implications of the current analysis are summarized.

6.1. Previous Proposals on Topicalization

6.1.1. On the Properties of Topic

Yang I.-S. (1973) suggests that topic in Korean can be identified as the first element in the surface form of a sentence, and that topic NP is not necessarily marked by the particle 'nun', but that any S-initial NPs are topics.

- (2) a. John-un, EC chookkoo-lul cal hanta.
 Top soccer-Acc well play
 'John is such that he plays soccer well.'
 b. John-i chookkoo-lul cal hanta.
 Nom soccer-Acc well play
 'John plays soccer well.'

According to Yang, both topicmarked NPs and nominative-case-marked NPs are considered to be topic since they are the first element in the surface form of the sentence. It is very common that a sentence with a nominative case marked NP is easily substituted by a sentence with a topic marked NP in Korean. There are, however, some cases where the left-most element may not be understood as topic, and the topic marker is not allowed.

- (3) a. pi-ka onta.
 rain-Nom comes
 b. *pi-nun onta.
 rain-Top comes 'It rains.'

If one wants to save Yang's suggestion, he needs to assume "zero topic" in front of sentence (3a). The correct representation of (3a) is the following:

- (3) a'. [TOP O] pi-ka onta.

Analogous to the structure given in (4), Korean may have the following sentence with a source/lexical topic.

- (4) [Nalssi-nun], pi-ka onta.
 weather-Top rain-Nom comes
 'As for weather, it is raining.'

An immediate consequence of this analysis is that there must be a topic in a clause/sentence.

D-W Yang (1975) proposes a morphological definition of topic which characterizes the topic in Korean as the S-initial element followed by the topic markers -(n)un in Korean. Yang's definition correctly predicts that a topic-marked NP in S-medial position may not get a topic interpretation, but may only get a contrastive focus.

- (5) John-un, EC chayk-un cal ilhnunta.
 Top book-Top well reads
 'John reads a book well.(but he does not do well something else)

Bak (1981) proposes that topichood in Korean optimally has three components:

- i) A topic NP is structurally in the higher NP position, i.e., the sisterhood relationship with matrix S-bar.
- ii) A topic NP is morphologically marked by '-(n)un'.
- iii) A topic NP is semantically interpreted as a definite NP.

I adopt Bak's three components analysis on Korean topichood, but the position of topic NPs needs be amended. According to Kim (1988), topichood is defined as an element discharged by the functional feature [+topic] from INFL either to the [Spec, IP] position or the [Spec, VP] position (the position of subject in VP-internal subject hypothesis).

6.1.2. On the Relation Between the Topic Marker and Topichood

The particle (delimiter) -(n)un in Korean triggers interesting questions with regard to the relationship between topichood and the nun-marked elements. Yang I-S (1973, 88) defines the meaning of the delimiter nun as follows:

Semantics of nun;

(6) Presupposition: a) The nun-attached element is known or registered.

b) Sister members explicitly or implicitly exist.

(7) Assertion: The nun-attached element is only concerned in an act or event.

(8) Implication: a) The registered or expected sister members do not have the same value as the nun-attached element has.

b) The unregistered or unexpected sister members are neutral.

The presupposition in (6a) can be understood to mean that the element, normally NP, marked by nun refers to either an entity which is already known to the addressee or an entity which is already introduced to the listener in the discourse.

Note the following:

(9) a. Chulsoo-ka nuku-lul salanghanunya?
 Nom who-Acc loves
 'Who does Chulsoo love?'

b. *Chulsoo-ka nuku-nun salanghanunya?
 Nom who-Del loves

In (9), (9a) is fine, but (9b) is not ruled in because it is not the case that the NP-nun refers to an entity that is already introduced to the hearer.

The presupposition in (6b) explains that there must be a/some sister members(s) which is/are assumed to be compared and contrasted.

(10) Na-nun sikol-lo kanta.
 I-Del country-TO go
 'I, not someone else, go down to the country.'

Chay (1976) gives a detailed analysis on the meaning of nun and concludes that nun represents two things: i) topichood and ii) contrast. When nun attaches to an NP which does not carry any emphatic stress in the sentence-initial position, it represents 'topichood'; however, when nun does not represent topichood, it represents 'contrast.' Putting it in another way, the nun-marked NPs which get emphatic stress in sentence-initial position, the nun-marked NPs which appear in the middle of the sentence, and the nun-marked adverbials only represent 'contrast.' The conclusion reached in Chay's analysis is consonant with Lee (1973) and Yang (1975).

6.1.2.1. NP-nun and Topichood

All NPs can take the delimiter nun in Korean.²

- (14) a. Chulsoo-ka haksayng-ita. [NOM]
 Nom student-be
 'Chulsoo is a student.'
- b. Chulsoo-nun haksayng-ita.
 Del student-be
 'As for Chulsoo, he is a student.'
- (15) a. Nay-ka ttek-ul mekessta. [ACC]
 I-Nom cake-Acc ate
 'I ate the cake.'
- b. ttek-un Nay-ka mekessta.
 cake-Del I-Nom ate
 'As for the cake, I ate (it).'
- c. Nay-ka ttek-un mekessta.
 I-Nom cake-Del ate
 'I ate the cake only.'
- (16) a. Nay-ka Chulsoo-eke chayk-ul cwessta. [DAT]

² As I pointed out in the first section, the nun-marked NP in sentence-initial position is considered to be 'topic.' Yang (1990) also assumes that the clause initial (n)un-marked NP is the topic of the respective sentences, and that the (n)un-marked NP in non-clause-initial position is not the topic but the contrastive focus.

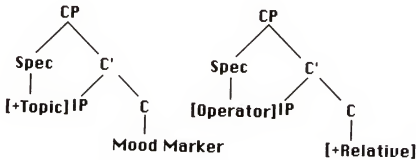
- b. *Nongputul-i [pi-nun o-ki]-lul kitalinta.
 farmers-Nom rain-Del come-Comp-Acc wait
 'The farmers are waiting for raining.'

As the (b) sentences show, the nun-marked NPs in the embedded subject position cause the ungrammaticality of the sentences. Yang (1990, 62) explains the case of ungrammaticality of (18b) by proposing the following constraints:

- (20) a. The grammatical mood marker (e.g., the declarative marker and the Q-morpheme) heads the non-relative clause CP, whose specifier position can be filled with the topic.
 b. The relative clause marker, which lacks mood features, heads the relative clause CP, whose specifier position is filled with the phonetically-null relative operator.

Yang's explanation here is equivalent to the statement that topichood is a realization of the Spec-Head agreement.

(21)



As in Yang, if I assume that topichood is a realization of Spec-Head agreement, the unavailability of topic interpretation in relative clauses can be explained in a simple way. The contrast observed in (19a) and (19b) can be explained by the fact that there is a null topic in the S-initial position of the embedded sentence. Since *ki* is not a relativizing complementizer in Korean, the unavailability of topic reading in (19b) cannot be explained by (20) and (21). However, if we assume there is a null topic in every clause-initial position, the ungrammaticality of (19b) can be considered as a violation of the Spec-Head agreement.

6.2. Review of Previous Proposals

6.2.1. Topicalization in Wh-Movement Analysis

Chomsky (1981) introduces a set of PS-rules to explain the topic construction in English.

- (22) a. $S'' \rightarrow \text{TOP } S'$
 b. $S' \rightarrow \text{Comp } S$
 (23) a. DS: [S' Mary [S' Comp [S John loves WHOM]]]
 b. SS: [S' Mary [S WHOM_i [S John loves t_i]]]

The PS-rules in (22) derive the topic position and the topicalization is interpreted as an instance of "Move-wh" as in (23). His claim that topicalization is an instance of WH-movement is based on the following properties of the topic construction:

- (24) a. The construction with a gap parallels the so-called left dislocation (LD) construction, which lacks a gap.
 b. LD freely violates island constraints whereas topicalization, on the other hand, conforms to island constraints.
 c. LD freely violates that-trace effect whereas topicalization observes it.

First, let's observe the following sentences:

- (25) a. John_i, I like t_i.
 b. John_i, I like him_i.

Sentence (25a) is an instance of topicalization and sentence (25b) is an example of LD. Sentence (25a) and (25b) are different in that (25a) involves movement of a WH-operator to Comp, whereas (25b) involves no such movement. The properties of (24b) and (24c) are a natural consequence of the assumption stated just before. To validate the claim that sentence (25) is an instance of topicalization and (26) is an instance of LD, the following examples are provided:

- (26) a. This book_i, I accept the argument that John should read it_i.
 b. * This book_i, I accept the argument that John should read t_i.

- (27) a. John_i, I think that he_i won the race.
 b. * John_i, I think that t_i won the race.

The sentences in (26) substantiate the property given in (23b) in that when we have a sentence with a gap as in (26b), the grammaticality judgment of the sentence becomes bad even though the corresponding LD sentence as in (26a) is good. By the same token, (27b) is bad while (27a) is good. Hence, we have a good reason to assume topicalization as an instance of 'Wh-movement' or 'null operator' movement. Since Chomsky (1977), topicalization is generally assumed to be an instance of WH-movement. Huang (1982) has adopted this idea for Chinese. It seems to be natural that I can expect the same conclusion for the topic NPs in Korean. Let's observe the Korean equivalents for the English sentences given above. Note that in both instances the NP located in the sentence-initial position is marked by the so-called topic marker -(n)un.³

- (28) a. i chayk-un_i, [S nay-ka [NP[S[S John-i kukusi-ul
 this book-Top, I-Nom Nom it-Acc
 ilkeyatoy-n-ta] nun] cucang-ul patatulin-ta].
 should read Comp claim-Acc accept-decl.
- b. i chayk-un_i, [S nay-ka [NP[S[S John-i EC_i
 this book-Top, I-Nom Nom (it)
 ilkeyatoy-n-ta] nun] cucang-ul] patatulin-ta.
 should read Comp claim-Acc accept-decl.

'As for this book, I accept the claim that John must read (it)'

One crucial difference between the English examples in (26) and the Korean examples in (28) lies in the grammaticality of (28b), which is analogous to (26b). If we stop here, one can quickly assume that Korean topicalization does not observe CNPC (Complex Noun Phrase Constraints). There are, however, many other instances of topicalization that observe the CNPC in Korean.

³. Following Huang (1982), Moon (1989) assumes that Topic NPs are produced by null operator movement.

- (29) * John₁-un, [S nay-ka [S [S EC₁ t₂ coaha-nun] chayk₂-ul]
 Top I-Nom like-Rel. book-Acc
 sass-ta.
 bought-decl.
 'John, I bought the book that (he) likes.'

In (29), one can attribute the ungrammaticality of (29) to the CNPC as in the case of English. However, it immediately raises a question as to what is the difference between the two instances. The only difference between the two constructions, i.e., (28b) and (29), lies in the fact that (28b) involves a single EC while (29) contains two ECs: i) an EC of the topicalized NP and ii) an EC of the relativized NP.

- (30) a. [Topic_i, --- [NP [CP [IP EC_i -]INP] ---]
 b. [Topic_i, --- [NP [CP O_j [IP EC_i t_j -]INP_j] ---]

In order to explain the ungrammaticality of (29) we need to appeal to the Wh-island effect, based on the assumption that Korean relativization involves null operator movement and that Topicalization is also an instance of null Wh-operator movement. Liu (1986, 145) points out that although Wh-island effects are found in Chinese, there are no comparable 'topic-island effects. An easy way out of this controversy is to assume that there are two types of topic-marked NPs in Korean: one produced by topicalization, i.e., WH-movement; the other produced by base-generation just like LD in English. A big difference between LD in English and the base-generated topic-marked NP construction in Korean lies in the fact that LD requires a resumptive pronoun, whereas the base-generated topic construction in Korean does not require a lexical resumptive pronoun, i.e., it may be null. There is, however, a difficult case of Korean topicalization.

- (31) a. John-un_i, [S nay-ka t_i coahan-ta]
 -Top I-Nom like-decl.
 'John, I like t.'

- b. *John-un_i [S nay-ka ku_i-lul coahan-ta]
 -Top I -Nom he-Acc like-decl.
 'John, I like him.'

As Chomsky points out, the topicalized sentence in (31a) is ruled in, but the topicalized sentence with a resumptive pronoun (31b) is ruled out in Korean. The resumptive pronoun and the trace of this type show a complementary distribution in Korean. That is, whenever subadjacency does not meet in a topicalized construction, inserting a resumptive pronoun saves it. But, whenever the topicalized NP observes the subadjacency, inserting a resumptive pronoun to the position of trace produces the ungrammaticality of the sentence.

Lasnik and Saito (1984) argue that languages can be divided into two groups with respect to the existence/nonexistence of syntactic WH-movement. one group of languages such as English, Spanish and French has overt WH-movement, whereas the other group of languages such as Korean, Japanese and Chinese lacks overt WH-movement. As Huang (1982) points out, however, WH-words/phrases in the latter group of languages also move at LF and the subadjacency and the ECP are respected at LF in these languages.

The assumption that the topic NPs are derived from WH-movement predicts that topicalization as well as WH-movement creates island effects if there is a WH-word/phrase in an embedded sentence. Since WH-words/phrases move at LF in Korean, it is natural to assume that the null operator for topicalization may not move across WH-words/phrase in Comp position of the embedded sentence. First, there is no subadjacency effect observed as in (32).

- (32) a. John₁-un, [IP nay-ka [CP [IP nuku-ka e₁ coaha-l]ci] molunta.
 Top I -Nom who-Nom like-will Comp don't know
 'John, I don't know who will like.'

- b. John₁-Top, [CP O₁ [IP I-Nom [CP who₂ [IP t₂ e₁ like] Comp]]-

In (32a), the null operator moves across more than two barriers in a single movement. Since the Comp position of the embedded sentence is filled by the WH-

word 'who' as in (32b), the null operator for the topicalized NP cannot use the Comp position as an escape hatch and the theory wrongly predicts that sentence (32a) is ungrammatical. This is problematic in that, contrary to the prediction of the theory, (32a) is grammatical. Either the assumption that topicalization involves a phonologically null WH-operator is wrong or John in (32a) does not originate from the embedded object position.

Second, topicalization is not sensitive to WH-island effects, as Huang (1982) has shown.

- (33) ne-nun [S [S ku salam₁-un nuku-ka e₁ poass-ta] ko]
 you-Nom the man-Top who-Nom saw-decl Comp

sayngkakhanya?

think-Q

'Who do you think that man, saw (him)?'

- (34) S-str.: [ne-nun [ku salam₁-un [S' O₁ [nuku-ka e₁ poass-ta] ko]
 sayngkakhanya]

- (35) LF: [nuku₂-ka [S' ne-nun [S' ku salam₁-un [S' O₁ [e₂ e₁ poass-ta] ko]
 sayngkakhanya]

Observe that the operator in Comp at S-structure does not block nuku 'who' from moving through Comp at LF, which means that WH-island effects are not found in (34), contrary to the prediction. Yet, if topicalization involves Wh-movement to Comp, then (34) should be impossible, since at LF the operator in Comp should block movement of nuku through the lower Comp, and movement across the lower Comp would result a subjacency violation. Before moving to another issue, observe the following properties of topic constructions in Korean.

i) First, a topic-marked NP can be an antecedent of an EC:

- (36) John₁-un [S [S ney-ka e₁ towacu-lila-ko] sayngkakhana-ta.
 Top you-Nom help-will-Comp thinks-decl.
 'John thinks you will help (him).'

John₁-un [S [S e₁ ka-lswu-eps-ta] ko] sayngkakhana-ta.
 Top go-can-Not-decl Comp thinks-decl.
 'John thinks that (he) can't go.'

ii) ECs which do not involve a relativization are not sensitive to WH-island conditions.

- (37)a. John₁-un [S[S Lisi-ka [S[S e₁ t₂ ecey ilhun] cikap₂-
 Top Lisi-Nom yesterday lost wallet-
 ul] chacass-ta] ko] malhayss-ta.
 Acc found-dec. Comp said-decl.
 'John said that Lisi found the wallet (he) lost yesterday.'

- b. *John₁-un [S[S Lisi-ka [S[S e₁ t₂ ecey ilhun] cikap₂-ul] chacass-ta.
 Top Nom yesterday lost wallet-Acc found-dec.
 'John, Lisi found the wallet (he) lost yesterday.'

iii) Topic constructions do not involve strong crossover effects, which is taken to be a diagnostics of being a variable.

- (38)a. * John₁-un, Mary-ka [NP[S[S e₁ t₂ salyute]-n] chayk₂-ul] chac-ass-ta.
 Top Nom buy-will Comp book-Acc find-Past-decl.
 'John, Mary found the book (he) was going to buy.'

- b. John₁-un, ku-ka [NP[S[S e₁ t₂ salyute]-n] chayk₂-ul] chac-ass-ta.
 Top Nom buy-will-Comp book-Acc find-Past-decl.
 'John, he found the book (he) was going to buy.'

(38a) illustrates that the topic structures are constrained by subjacency. (38b), on the other hand, shows that when the subject pronoun *ku* 'he' is coindexed with the topic *John*, the structure is well-formed, and it is an obvious violation of subjacency, i.e., CNPC. An implication of this analysis is that not all gaps that are bound to the topic are A'-traces. Those ECs in a structure like (38)', where a pronoun is their local binder, are not A'-traces, but pro.

- (38)' Topic_i pronoun_i EC_i

If I assume that this kind of EC is actually a pro, it is obvious that they do not show the topic-island and the subjacency effects.

6.2.2. Korean Topic Construction and English Left Dislocation

Kang (1986, 229) argues that Korean topics must be base-generated in the leftmost topic node based on the following observations: i) resumptive pronouns are allowed in the original position of the topic phrase; ii) Korean topics violate CNPC (Complex Noun Phrase Constraint) and subadjacency. Yoshimura (1987) also argues for the base-generated topic analysis for Japanese.

Kang (1986, 228) argues that English left dislocation and Korean topic constructions are similar in that both allow resumptive pronouns. Consider the following examples of English left dislocation:

- (39) a. (As for) this book, I read it.
 b. (As for) these lobsters, I bought them right at the shore.
 c. As far as Lee is concerned, I will never believe the claims that have been made about him.

Sentences (39a)-(39c) have resumptive pronouns. In (39c), the resumptive pronoun 'him', which refers to 'John', violates CNPC, and hence subadjacency. This is why Chomsky (1977) argues that LD sentences cannot be generated transformationally, but must be base-generated. Now, consider Korean topic constructions:

- (40) a. ku yeca-nun_i, [kangto-ka cak_i-uy nampyen-ul khal-lo
 that woman-Top robber-Nom self's husband-Acc knife-with
 ccil-e cwuk-i-ess-ta].
 stabbing kill-Past-Dec
 'As for that woman, a robber killed SELF's husband by stabbing with a knife.'
 b. Ku namca-nun_i, [kangto-ka cak_i-uy ton-ul mongtang tele-ka-
 that man-Top robber-Nom self's money-Acc all rob-go
 ss-ta].
 Past-Dec.
 'As for that man, a robber robbed (of him) all of SELF's money.'

As in (40), Korean topic constructions show some similarities to English LDs. With regards to the ungrammaticality of (41b), he argues that unlike English resumptive pronouns in LD, Korean resumptive pronouns need thick insulation.

- (41) a. i chayk-un, nay-ka EC ilk-ess-ta.
 this book-Top I-Nom read-Past-Dec
 'As for this book, I read.'

(42) a. As far as Chulsoo is concerned, I cannot believe the rumor that MIT will employ him.
b.* As far as Chulsoo is concerned, I cannot believe the rumor that MIT will employ EC.

(43) Mary_i-nun John-i caki_i 'self' -uy ttal-ul cohahanta.
 kuney_i 'her'
 EC_i

Based on these observations, Kang finally summarizes the similarities of English LDs and Korean topic constructions as follows:

- Kang also observes some differences between English LDs and Korean topics.

- (45) a. While English does not allow for any empty pronominals, Korean allows for it.
b. Unlike English, Korean resumptive pronouns need thick insulation.

The following can be concluded from Kang's analysis on Korean topic constructions.

- (46) a. Korean topic constructions are uniformly base-generated.
b. The empty elements are identified as variables because they are bound by an A'-antecedent.

Among other implications, (46b) is contradictory to his own claim that the empty elements are empty pronominals as in (45). Note that Chomsky's (1982) functional

determination of ECs forces a conclusion that an EC bound by an A'-antecedent is a variable.

As discussed in the previous section, Kang (1986) proposes that both Korean topicalization and English LDs are base-generated and subsequently appear in the same position. Baltin (1982), however, notes that left dislocation is not allowed in an embedded context, while topic is allowed in an embedded clause.

- (47) * He is a man [_S to whom [_S liberty, [_S we can never grant it]]].

Korean has left dislocation structures as follows:

- (48) Mary, kunye-nun papota.
 LD she-Top is a fool
 'Mary, she is a fool.'

Contrary to Kang's claim, the topic NP does not appear as the left-most element in (48). Second, the topic marked NP cannot precede LDs as in (49):

- (49) * Mary-nun, kunye, papota.
 Top LD she is a fool
 'As for Mary, she is a fool.'

Third, LD and Topicalization may occur in a single clause in Korean.

- (50) Nay-ka [Mary, kunye-nun papola-ko] saynkakhanta.
 I-Nom LD she-Top is a fool-Comp think
 'I think that Mary, she is a fool.'

Finally, the Korean topic construction may appear in an embedded clause, while English LDs are not allowed in an embedded clause. ⁴

⁴. I distinguish two types of embedded clause in Korean: i) relative clause and ii) other embedded clauses. In the former case, topic NP as well as LD NP may not appear in it, but in the latter case, topic NP is allowed in it as I pointed out in the main body. In section 7.3.3., I explain why topic NP is not allowed inside of a relative clause.

6.2.3. Topicalization as A'-Scrambling

Saito (1985) argues that some instances of topicalization are a subclass of scrambling, which triggers S-adjunction. According to him, the sentence-initial topic can be sometimes be base-generated in that position and can also be filled by movement. In other words, when a topic does not have a subjacent coindexed empty category, i.e., non-gap topic appears in a sentence, it must be base-generated in that position. When a sentence-initial topic is not licensed by the "aboutness" relation, however, it must be derived by movement. Kuroda (1988) also adopts Saito's assumption that topicalization is a subclass of scrambling.

Let's think about the first case where a topic is base-generated without involving any movement. Note the following:

- (51) a. Sakana-wa [tai-ga oisi]
 fish-Top red snapper-Nom tasty
 'Speaking of fish, red snapper is tasty.'
- b. Hana-wa [sakura-ga ii]
 flower-Top cherry blossoms-Nom good
 'Speaking of flowers, cherry blossoms are the best.'

First, as (51) illustrates, the topic does not bind any argument position in the examples. Second, this type of topic construction does not observe subadjacency.

- (52) Sono sinshi-wa [S [NP [S EC_i EC_j kite iru] yoohukuj]-ga
 that gentleman-Top wearing suit -Nom
 yogorrete iru]
 dirty be

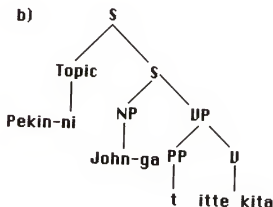
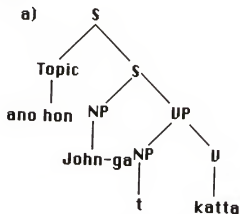
'Speaking of that gentleman, the suit he is wearing is dirty.'

Saito, however, observes that there is another type of topic construction in Japanese, and this type of topic construction can be treated as a subclass of scrambling.

- (53) a. Ano hon-wa John-ga katta.
 that book-Top Nom bought
 'Speaking of that book, John bought it.'

- b. Pekin-ni-wa John-ga itte kita.
Peking-to-Top Nom
'John made a trip to Peking.'

(53a) involves a topicalized NP from the object position, while (53b) involves a topicalized PP which seems to be located inside of S in a canonical structure of Japanese. According to Saito, the two sentences will get the following structures after topicalization.



As in (54a) and (54b), topicalization involves two operations; i) S-adjunction of topic and ii) movement of a S-internal element to the topic position. If we follow a general definition of A/A'-distinction, the topic position can be counted as an A'-position, as Saito did. Since both base-generated topic and moved topic NPs are in S-adjoined position, i.e., A'-position, in Saito's analysis, it is natural to assume that topicalized NP cannot be an antecedent of reflexive pronouns. The topic marked NPs, however, frequently provide an antecedent of reflexive pronouns in Korean.

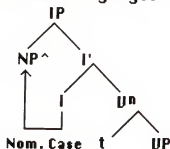
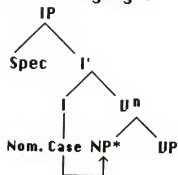
- (55) a. John-un [caki-ka chuncayla-ko] sayngkakhanta.
Top self-Nom genius-be-Comp think
'John thinks that self is a genius.'
- b. Chelswu-nun [casin-uy nwui-ka calangsulepta].
Top self's sister is proud of
'Chelswu is proud of his sister.'

(55a) involves a topicalized NP from the subject position and (55b) involves a non-gap topic construction which is base-generated in S-adjoined position. If I assume that these topics are in A'-position, it is difficult to explain why Binding Condition A is fulfilled in (55a) and (55b). John in (55a) can be an antecedent of *caki*, but it is not in A-position; hence, John cannot provide an antecedent of A-binding. The same thing happens to (55b). In order to avoid this kind of problem in scrambling, Yoon (1991) argues that an adjoined position need not be A'-position and that Korean and Japanese are languages where adjoined positions may be A-positions.⁵

Yoon (1991, 173-) also argues that topicalization in English can be analyzed as an instance of A'-scrambling by adjunction just like A'-scrambling in Hindi or German, but topicalization in Korean can be analyzed as an instance of A-scrambling. She claims that there are two types of scrambling: i) adjunction (a type of A'-movement) and ii) substitution (a type of A-movement). Although Hindi and German show both types of scrambling, English does not have the possibility of substitution. She also points out that the lack of A-scrambling in English can be attributed to case assignment. Koopman and Sportiche (1988) observes two types of languages: i) languages in which nominative case is assigned to the Spec(I), which requires subject raising as well as V-raising and Spec-Head agreement (case assignment through agreement: Class I languages), and ii) Languages in which Nominative Case is assigned to the Spec(V) without raising the subject NP (case assignment through structural government: Class II languages).

⁵. Yoon's (1991) claim is based on the fact that Korean and Japanese have multiple subject constructions and multiple object constructions.

(56)

a. Class I Languages**b. Class II Languages**

Yoon claims that since Class I languages do not contain any Spec position left after case assignment, scrambling obligates IP-adjunction, hence A'-scrambling. However, Class II languages may use the Spec (I) position as a landing site of scrambling. An immediate prediction of her analysis is that for scrambling to a clause-initial position, i.e., Spec of IP, to be A-movement in a language, the language must be a Class II language. Although she indicates that Korean topicalization may be analyzed as an instance of scrambling, she does not elaborate on it.

6.2.4. Topicalization as a Result of Spec-Head Agreement

Kim (1988) points out that Korean topicalization can be best explained if it is considered as a result of Spec-Head Agreement. She rejects both the [Spec, CP] analysis advocated by Chomsky (1977, 1982) and Huang (1982) and IP-adjunction analysis advocated by Saito (1985) and Kuroda (1988) and proposes the Spec (I) or Spec (V) analysis as an alternative. She argues that Korean topicalization cannot be analyzed as IP-adjunction or as an element saturated in the Spec (C) for the following reasons:

- (57)
- i) Topic NP cannot override the scope of the [+WH] element in the Comp.
 - ii) Observation i) implies that the [+TOPIC] feature cannot be in the Comp.

- iii) It has been argued that Comp is not the source of [+DEFINITE] and yet Korean topic allows only a [+DEFINITE] element.
- iv) IP-adjunction is not possible because Korean contains sentences which involve both topicalization and scrambling at the same time, which will violate the Freezing Principle. (Wexler & Culicover, 1980) ⁶

Her analysis on Korean topicalization involves three types of topic construction.

- (58) Korean Topics (Kim Y-S, 1988:134)
 - a) Move-alpha : Non-subject topic constructions
 - b) Base-generation : Subject topic constructions
 - c) Insertion : Non-theta marked topic NP constructions

(58) can be interpreted this way. Non-subject topic constructions involve NP-movement to Spec (I) position, while subject topic NPs are base-generated at the Spec (V) position. The non-theta marked topics, i.e., non-gap topics, are inserted at SS since they are optional elements.

In summary, this section has shown four possible ways that one can analyze Korean topic constructions:

- (59) i) Wh or null operator movement: Chomsky (1977, 1982)
- ii) Base-Generation: Kang (1985) & Yoshimura (1987)
- iii) Scrambling: Saito (1985), Kuroda (1985) & Yoon (1991)
- iv) Mixed analysis: Base-generation of subject topic
Move-alpha of non-subject topic
Insertion of non-theta marked topic (Kim Y-S, 1988)

I generally agree with Kim's (1988) claim that topichood is licensed by INFL, but her mixed analysis contains some unsolved problems. As in Kim, I assume that the attachment of topic marker -(n)un is an agreement process between the topic NP [Spec, IP] and the INFL. Unlike Kim, however, I reject the F-feature, [+topic], Assignment Directionality Parameter (FADP), which stipulates that F-feature percolates either down to the Spec of Vn in some cases or up to the Spec of IP in other cases, which is considered to a major problem with this analysis. In the first case, that is when the [+F] feature percolates down to the Spec of Vn, the topic

⁶. The Freezing Principle states that when one element is adjoined, the structure is frozen. Consequently, it prohibits multiple adjunctions.

NP should be able to take both nominative case marker *-i/-ka* and the topic marker *-(n)un* at the same time. Yet Korean never shows a grammatical sentence with the structure of [NP + nominative case marker + topic marker], which indicates that Kim's analysis needs to be modified. A possible option is to stipulate that there is a filter as in (60) in Korean.

(60) * NP + nominative case marker + topic marker

Another way of avoiding the problem, which seems to be better and more attractive, is simply abolishing the FADP and giving a uniform analysis for the topic constructions.

6.3. Theoretical Conclusion

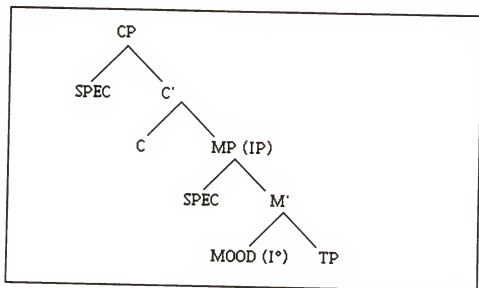
6.3.1. CP and Topic NP in Korean

Fukui (1986, 1987) and Fukui and Speas (1986) propose that Japanese, which is quite similar to Korean in most grammatical aspects, lacks CP, since Japanese lacks the functional Feature [+WH], which licenses the Spec of C and attracts WH phrases to the Spec of C. They argue that specifier position of functional categories are licensed by SPEC-HEAD agreement. In their system, the specifier position of C is licensed by [+WH]. The category C is projected to a double bar level only if it contains the functional feature [+WH]. Fukui (1986) argues that there is no CP in Japanese because there is no complementizer in Japanese. In this paper, however, I argue that there is a CP in Korean.

Whitman (1989) proposes that Korean is a modal/mood-headed language. He argues that root clauses in Germanic languages must be headed by a tensed element. An immediate consequence of this generalization is the accountability of V2 effects in these languages as in Travis (1984). Modals such as shall, will, may, can and must in English are generated under I° in a Pollock-type analysis (Pollock 1989). Based on this observation, he argues that these languages are tense-

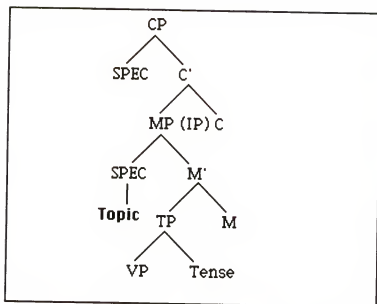
headed languages contrary to modal-headed languages. He further claims that mood is the highest category in IP in Korean and Japanese, just as tense is the highest category in IP in Germanic languages. The resulting analysis of IP structure for Korean is given below:

(61)



Since Korean is a head-final language, the corresponding tree structure of (61) will be like (62).

(62)



6.3.2. Wh-Words in Korean and Spec-Head Agreement

Chung-Mok Suh (1989) observes an interesting agreement phenomenon of the Wh-phrase and the Wh-question sentence final morpheme 'ko' or its allomorph 'o' in the Kyungsang dialect of Korean. He concludes that -ka is the interrogative morpheme which is used in yes/no questions and that -ko is the Q-morpheme used in Wh-questions. Thus, the following sentences are not Wh-questions.

- (63) a. Swuni-ka etey-ey ka-as-n(i)-a?
 NOM somewhere-LOC go-PAST-INT
 'Did Swuni go somewhere?'
 b. Wuncey kwukmin ttus mul-e po-ko cengchiha-as-n(i)-a?
 when people's opinion ask-after govern-PAST-INT
 'They always govern the nation without asking people's opinion.'

What he is claiming here is that not all sentences which involve a Wh-phrase are Wh-questions. Only sentences which include a Q-morpheme can be interpreted as Wh-questions.

- (64) a. Wuncey-ka ni sayngil-i-ko?
 when-NOM your birthday-be-Q
 'When is your birthday?'

- b. Swuni-nun etey-ey ka-ass-n(i)-o?
 TOP where-LOC go-PAST-Q
 'Where did Swuni go?'

According to Suh, the [+WH] indirect question form 'nko' appears in the embedded sentence COMP position if a wh-word stays in the embedded interrogative sentence. Since the [+WH] feature of the wh-word agrees with that of '-ko' in the embedded sentence, 'ko' is not selected as the matrix sentence final marker but (k)a is selected. In this case, the embedded sentence is interpreted as a wh-question, while the matrix sentence is interpreted as a yes/no question.

- (65)a. Ni-nun [Swui-ka etey-ey ka-ass-nun-ko] morwu-n(i)-a?
 you-T Nom where go [+WH] not know[-WH]
 'Don't you know where Swuni went?'

- b. Yenghi-nun [Swuni-ka nwu-lo cohaha-nun-ko] nwul-ess-n(i)-a?
 Top Nom who-Acc like [+WH] ask [-WH]
 'Did Yenghi ask who Swuni liked?'

When the Q-morpheme occurs in the matrix verb, the matrix sentence must be interpreted as wh-questions although the wh-word appears in the embedded sentence.

- (66)a. Ni-nun Swuni-ka etey-ey ka-ass-ta-ko sayngkakha-n-o?
 you-T Nom where go-Past-Dec-C think [+WH]
 'Where do you think Swuni went?'

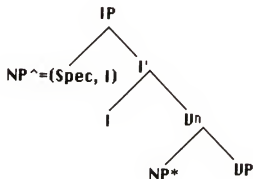
- b. Sensayngnim-un [ne eykey mues-ul sa-o-la-ko] siki-as-n-o?
 teacher-Top you Dat what-Acc buy-Imp-C ask-Past-[+WH]
 'What did the teacher ask you to buy?'

Suh's (1989) analysis strongly supports LF-movement in Korean. In other words, the Q-morpheme indicates the extraction path of the wh-word in Korean. In this case, I could say that the Q-morpheme in the matrix verb attracts the wh-word at LF and that mood markers such as -ta (Declarative), -la (Imperative) and -ca (Propositive) would not block the extraction of the wh-words from the embedded sentence.

6.3.3. Topic NP and Honorific Agreement in Korean

Koopman and Sportiche (1988:15) propose the following analysis for the position of the subject:

(67)



There are two ways that an NP can obtain case: case is assigned to an NP either i) under government by a structural case assignor or ii) by Agreement of the NP with a case-assigning head. Which of these two case-assigning options is realized depends on the particular category X^0 , the head H it contains, and the language L. For example, tensed INFL in English only assigns case by agreement, forcing the raising of NP* when it needs case while tensed INFL in Arabic and Irish/Welsh can assign Case structurally, permitting lexical NPs to surface in NP*.

Korean shows subject-verb agreement when an NP in subject position carries the honorific marker -kkese. Note the following:

- (68) Kim kyosoo-nim-**kkese** Mary-lul palapo-si-ess-ta.
 Porf. Kim-HON-NOM(HON) Mary-ACC see-HON-PAST-DEC
 'Professor Kim saw Mary.'
- (69) * Chulsoo-ka Mary-lul palapo-si-ess-ta.
 -NOM Mary-ACC see-HON-PAST-DEC
 'Chulsoo saw Mary.'

As sentence (68) illustrates, when an honorific subject appears, it is necessary to insert an honorific marker to the verbal stem. The honorific marker -si, however,

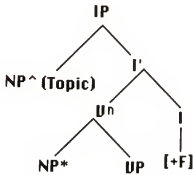
cannot be used if the subject NP is not honorific as in (69). Sentence (69) may be considered as a possible sentence, but cannot be honorific. If the subject NP is a normal NP, the verbal honorific marker does not appear in the sentence.

Interestingly enough, the honorific agreement appears not only between Subject and verb, but also between topic NP and verb.

- (70) Kim kyosoo-nim-un muscangi-si-ta.
 Prof.Kim-HON-TOP gentleman-be(HON)-DEC
 'Professor Kim is a gentleman.'

According to Kim (1988:130), Korean topicalization is an instance of a licensing process. She assumes that the Korean topic feature [+topic] is one of the agreement features appearing in the INFL node. She claims that the topic feature [+topic] is morphologically realized as affix '(n)un' in the INFL and is spelled out as XP+nun' by a rule of Affix Hopping at PF: XP [+definite] + Affix 'nun'= topic XP.

(71)



If I can assume that topicalization is a sort of agreement phenomenon in Korean, it immediately raises a question on the property of [+F]. I would like to claim that the Korean mood markers are specified for [+F] and they are the licensors of the topic position. I note specifically that the topic marked NPs in relative clauses cannot have the topic interpretation, which contradicts the previous claim by Sung-Yun Bak (1981).

- (72) a. Ku thamceng-i [NP[CP ku yeca-nun ilhu-n]panci]-lul
 the detective-NOM the woman-T lost ring-ACC
 chassta.
 found
 'The detective found a ring which, speaking of the woman, she lost.' (unavailable reading)
- b. Ku thamceng-i [NP[CP ku yeca-nun panci-lul ilhess-ta]ko]
 the detective-NOM the woman-T ring-Acc lost-M COMP
 hayssta.
 said
 'The detective said, speaking of the woman, she lost a ring.' (available reading)

The difference between (72a) and (72b) lies in the presence or absence of the mood marker *-ta* in the embedded sentence. When there is no mood marker as in (72a), topic interpretation is not available, whereas when there is a mood marker in the embedded sentence as in (72b), topic interpretation is possible.

6.3.3.1. Specifier-Head Agreement in Japanese

Toribio (1990) suggests that honorification in Japanese is best defined in terms of agreement, following Kuno (1978) and Shibatani (1978, 1985). She also assumes that an overt morphological agreement involves the sharing of phi-features, as proposed by Chomsky (1986a,b) and Koopman and Sportiche (1988). This entails that at some point in the derivation, the phrases which induce honorific agreement appear in the specifier position of [+N] categories, and the elements which demonstrate honorific morphology appear as heads of [+N] categories. In Toribio (1990) the following facts are observed:

- i) Subject honorification cannot be triggered by an object.

- (73) a. *Watasi-wa sensei-o o-sonkeisi-ni nat-te ir-u
 I-TOP teacher-ACC Hon-respect-dat become-ing be-Imp
 I respect my teacher (Gunji 1987; p. 35)
- b. Yamada sensei-ga o-warai-ni nat-ta
 Yamada teacher-Nom Hon-lagh-dat become-Perf
 Professor Yamada laughed.'

- ii) Verbal object honorification is triggered by both direct and indirect objects.

- (74)a. Ootoo-ga sensei-o o-tasuke si-ta
 brother-Nom teacher-Acc Hon-assist do-Perf
 'My brother assisted his teacher.' (Shibatani 1978; p. 55)

- b. Ootoo-ga sensei-ni hon-o o-watasi si-ta
 brother-Nom teacher-Dat book-Acc Hon-hand do-Perf
 'My brother handed a book to his teacher.' (Shibatani 1978; p. 55)

iii) But the presence of an indirect object precludes direct object honorific agreement on the verb.

- (75)a. *Watasi-wa ootoo-ni Yamada sensei no koto-o o-hanasi si-ta
 I-Top brother-Dat Yamada teacher-Gen thing-Acc Hon-talk do-P
 'I talked about Professor Yamada to my younger brother.'

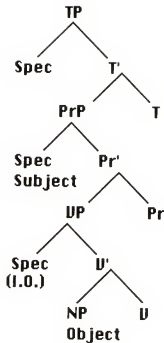
- b. Watasi-wa Yamada sensei ni ootoo-no koto-o o-hanasi si-ta
 I-Top Yamada teacher-Dat brother-Gen thing-Acc Hon-talk do-P
 'I talked to Professor Yamada about my younger brother.'

- c. *Ootoo-ni Yamada sensei-o go-syookai si-ta
 brother-Dat Yamada teacher-Acc Hon-introduce do-Perf
 'I introduced Professor Yamada to my younger brother.'

- d. Yamada sensei-ni ootoo-o go-syookai si-ta
 Yamada teacher-Dat brother-Acc Hon-introduce do-Perf
 'I introduced my younger brother to Professor Yamada.'

Toribio (1990) suggests that the verbal predication in Japanese can be explained with the following structure.

(76)

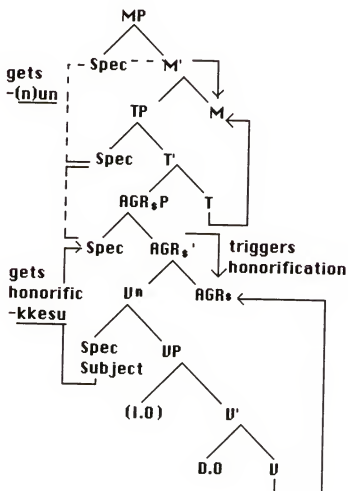


The structure given in (76) can be interpreted as follows: For the subject honorification, a subject NP generated in [Spec, Pr] moves to the [Spec, T] position to get a nominative case. In the same process, the verb is raised to the T-position through head-to-head movement. When these two processes are finished, the honorific agreement is triggered by the typical Spec-Head agreement and the honorific marker *-o/-go* is generated at the T-position.

It is very interesting to notice that Korean shows the same phenomenon and that the same analysis is available. Before I move on to the Korean honorification, however, the model sketched above contains some empirical problems. First, nominative case is not assigned by the [+Tense] element in Korean. In other words, Korean allows an NP in the subject position of an untensed clause. Second, object honorification is not similar to that of Japanese. Third, as Ahn and Yoon (1989) point out, TP is not the highest node of a sentence in Korean. (I think the same thing can be claimed for Japanese also.) In order to avoid these empirical problems, I would like

to propose a different structure of IP, which is originated from Chomsky (1989) and Pollock (1989).

(77)



In (77), the subject is generated in [Spec, V_n] as Koopman and Sportiche (1988) suggest. The direct object is generated as a complement of V. Thus, the Korean honorific agreement will be explained by the NP-raising on a par with the typical case of subject-verb agreement in English-type languages. The flow chart of the honorification is as follows: i) Subject NP moves (raises) to the [Spec, AGR_s] position. Here I assume that the subject NP must move into the [Spec, AGR_s] to get Honorific Nominative Case -kkesu. ii) The verb must be

raised for inflection since the honorific AGR morpheme *-si-* is not a free morpheme. iii) Once the subject NP obtains the honorific case marker *-kkesu*, it will automatically trigger a typical Spec-Head agreement. How can I explain the honorific agreement between topic NPs and the verbs? I suggest that the subject NP raises through Spec-to Spec movement until it reaches to the [Spec, MP] position where the NP gets the topic marker via the Spec-Head agreement. During the process of topicalization, the verb also raises to the mood position to make a verb complex as in the case of subject honorification.

6.3.3.2. Topicalization and Honorific Agreement in Korean

Cho (1990) argues that Korean has an AGR-P, a maximal projection of honorific AGR, and it is argued that Korean, just like Japanese, shows subject-verb agreement with respect to honorific markers.

- (78) Kim sensayng-nim-i chayk-ul sa-si-ess-ta.
 teacher-Hon-Nom book-Acc buy-Hon-Past-Dec
 'Professor Kim bought a book.'

As in (1), if there is a subject NP which is marked by a honorific marker *-nim*, the verb must take the honorific morpheme *-si*. However, there are two more cases of honorification. Korean honorific agreement shows the following cases:

i) Subject NP may trigger honorification.

- (79) Kim kyosoo-nim-kkesu si-lul ssu-si-n-ta.
 prof.-Hon-Nom poem-Acc write-Hon-Prs-Dec
 'Prof. Kim writes poems.'

ii) Topic NP may trigger honorification.

- (80) Kim Kyosoo-nim-un si-lul ssu-si-n-ta.
 Prof.-Hon-Top poem-Acc write-Hon-Prs-Dec
 'Prof. Kim writes poems.'

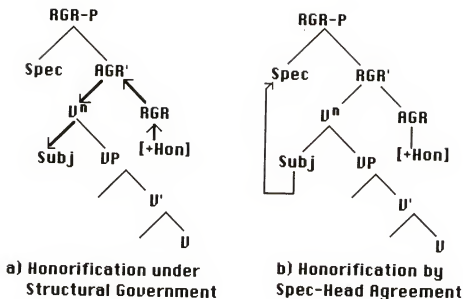
iii) Possessor NP within subject NP may trigger honorification.

Kim kyosoo-nim-uy chayk soocip-i insangceki-si-ta.
 Prof.-Hon-Poss book collection-Nom impressive-Hon-Dec
 'Professor Kim's book collection is impressive.'

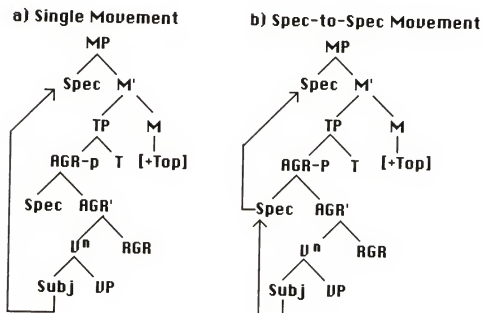
Case i) is not a problem at all, but cases ii) and iii) contain some possible problems. First, in the case of ii), the topic NP, which is assumed to be located in the Spec of I, triggers the honorification. This is why Kim (1990) argues that the subject-honorific feature in Korean is not a manifestation of AGR in INFL. Second, the possessor NP which is not the head of the subject NP may trigger the honorification. This is also problematic in that the [+Honorific] AGR does not agree with the head of the subject in this case.

The present proposal, however, claims that Case ii) is direct evidence of interaction between the topicalized NP and the [+Honorific] AGR, and Case iii) further indicates that a pro subject exists. We adopt Koopman and Sportiche's (1988) suggestion which claims that there are two types of INFL, which can be reinterpreted as AGR in Pollock's system: a) INFL as a raising category, and b) INFL as a non-raising category. Among these two types, Korean & Japanese are classified as the latter type, which indicates that [+/-Honorific] feature can be transmitted under structural government. Note the following diagrams.

(81)



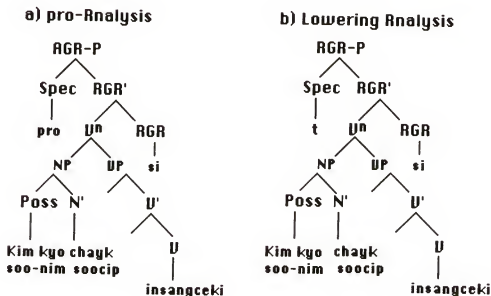
(82)



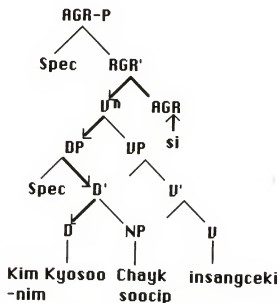
If we assume topicalization is also a process of Spec-Head agreement, there are two possible movements that we can think of. One step movement from the subject position, i.e., [Spec, VP] position, to the [Spec, MP] position and the Spec-to-Spec movement from the original place. If we want to explain the case of iii)

without stipulations, we can think of three possible options as follows: i) pro-analysis as in (83a), ii) movement analysis as in (83b), and iii) DP-hypothesis as in (84).

(83)



(84)



If I assume that *pro* is co-indexed with the possessive NP, *Kim Kyosoo-nim*, of the subject NP which contains the [+honorific] feature, I may explain why honorific

marking on the verbal suffix is realized even in the case where the head of the subject is not an NP which carries the [+Honorific] feature. In this case, *pro* is assumed to be an empty equivalent of the expletive pronoun *it*. However, NP-lowering analysis is not a possible option because it will violate the ECP. There seems to be one more option which introduces the DP-hypothesis. According to the DP-hypothesis, the determiner, not the NP becomes the head of the subject and the [+Honorific] feature percolates down to the head of the subject, i.e., *D* in this case.

6.3.4. Implementation of the Proposal

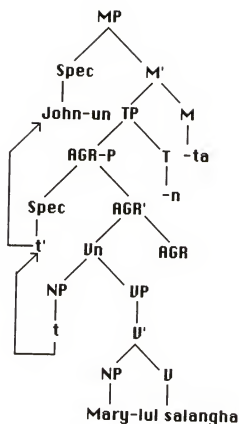
6.3.4.1. Topicalization of the Subjects

This section provides for a detailed analysis of Korean topicalization as a Spec-Head agreement process. Note the following sentences first:

- (85) a. John-i Mary-lul salanghanta.
 Nom Acc loves
 'John loves Mary.'
 b. John-un Mary-lul salanghanta.
 Top Acc loves
 'As for John, (he) loves Mary.'

According to the current proposal, (85b) is derived from (85a). As Koopman and Sportiche (1988) suggested, the subject is generated as a Spec of Vn at D-structure and moves to the Spec of MP (=IP) to get a [+topic] feature. It can be represented as follows:

(86)



In (86), the subject NP moves into the Spec of AGR-P to get an agreement feature for honorification. Next it moves to the Spec of MP to get the topic feature from the head, i.e., the mood marker. The topicalization of the matrix subject is straightforward as the diagram in (86) indicates. Now how can we derive the topicalization of the embedded subjects? There are two cases in which the embedded subject topicalization may be available: i) the case when the embedded subject is thematically bound by the topicalized NP as in (87b); and ii) the case when the embedded EC takes an independent theta role as in (87d).

- (87) a. John-i [Chelswu-ka Mary-lul salanghanta-ko]
 Nom Nom Acc loves -Comp
 malhayssta.
 said
 'John said that Chelswu loves Mary.'

- b. Chelswu-nun, John-i [EC Mary-lul salanghanta-ko]
 Top Nom Acc loves -Comp
 malhayssta.
 said
 'As for Chelswu, John said that (he) loves Mary.'
- c. John-i [EC Mary-lul salanghanta-ko] malhayssta.
 Nom Acc loves -Comp said
 'John said that (he) loves Mary.'
- d. John-un [EC Mary-lul salanghanta-ko] malhayssta.
 Top Acc loves -Comp said
 'As for John, (he) said that (he) loves Mary.'

In the cases of (87a) and (87b), it can be said that (87a) is the D-structure sentence of (87b) and that (87b) may be handled in the standard way of the Spec-to-Spec movement. How about the cases of (87c) and (87d)? It may be assumed that the topic marked NP *John-un* has undergone the Spec-to Spec movement. However, this assumption raises the question of what the source position of the topic marked NP is, the embedded subject position or the matrix subject position? If one assumes that *John* originates from the embedded subject position, it is difficult to explain why an NP-movement lands in a [+theta, +Case] position. In other words, theta theory requires that the source position of the topicalized NP *John-un* is the matrix subject position. An immediate question to follow is what the property of the EC in the embedded subject position is. It cannot be a NP-trace because the topic NP has not originated from the position. It cannot be a variable either because the topic NP is not in A'-position, i.e., the EC is not bound by an operator. It cannot be a PRO since the embedded clause is tensed. Thus, a natural conclusion is to assume *pro* at this position.

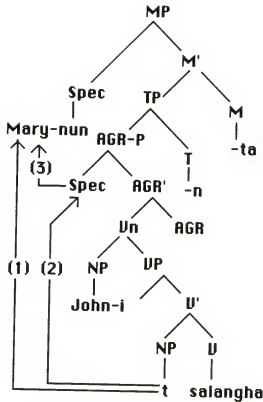
6.3.4.2 Topicalization of Objects

So far I have shown how the current proposal can be implemented for subject topicalization. Now let's think about object topicalization. Note the following sentences:

- (88) a. John-i Mary-lul salanghanta.
 Nom Acc loves
 'John loves Mary.'
 b. Mary-nun, John-i EC salanghanta.
 Tbp Nom loves
 'As for Mary, John loves (her).'

As in the case of subject topicalization, it can be assumed that (88a) is a D-structure of (88b). In (88b), Mary and the EC are theta-bound. Thus, it can be said that the EC is a trace left by the topicalization, which is represented in (89). Unlike subject topicalization, an object NP cannot use the Spec of AGR-P as a landing site (as indicated by [2] and [3]) because it will trigger an object-verb agreement, which is not existent in Korean. Thus, I assume that the topicalization from the object position does not involve the Spec-to-Spec movement, which is obligatory in subject topicalization. Instead, an object moves into the topic position by a single movement.

(89)



Let's consider a case of topicalization of the embedded object.

- (90) a. John-i [Chelswu-ka Mary-lul salanghanta-ko]
 Nom Nom Acc loves -Comp
 malhayssta.
 said
 'John said that Chelswu loves Mary.'

- b. Mary-nun, John-i [Chelswu-ka EC salanghanta-ko]
 Top Nom Nom loves -Comp
 malhayssta.
 said
 'As for Mary, John said that Chelswu loves (her).'

In (90b), the EC in the embedded clause is theta-bound by Chelswu and it can be said that the position of the EC is the source position of the topicalized NP Mary in (90b).

An object topic raises first to the Spec of MP. In order to move the object topic NO out of CP of the embedded clause, two options are available: i) assume that CP is not a barrier in Korean; or ii) assume that a topic NP may use the Spec of CP as an escape hatch.⁷

6.3.4.3. Topic and ECs in Embedded Clauses

This section will be devoted to discussion of the status of ECs in embedded sentences. Note the following:

- (91) a. John-i [Mary-ka EC salanghanta-ko] malhayssta.
 Nom Nom loves-Comp said
 'John said that Mary loves (him).'
 b. John-un [Mary-ka EC salanghanta-ko] malhayssta.
 Nom Nom loves-Comp said
 'As for John, (he) said that Mary loves (him).'

(91a) can be counted as D-structure of (91b), but the EC in the embedded object position cannot be a trace of the topicalized NP John-un. Since the topicalized NP and the EC have an independent theta role of their own, theta theory precludes from relating the two positions. Subsequently, the EC in the embedded clause must be identified as pro as in the case of subject ECs.

In summary, there is a subject-object asymmetry in Korean topicalization in that the subject topicalization uses the Spec of AGR-P as a landing site, whereas the object topicalization does not use it as a landing site. There is, however, no asymmetry between subject and object topicalization in terms of the

7. Yoon (1991) claims that the Spec of CP is an A-position in Korean. According to her analysis, in a typical case of ECM, the higher ECM verb case-governs the Spec of CP to assign Accusative case to the subject of the embedded clause which moved into the Spec of CP position. Thus, both of the sentences given below are grammatical in Korean.

- | | |
|--|-----------|
| a. Chelswu-nun [Yenghi-ka chencay-i-essta-ko] | mitessta. |
| Top Nom was a genius-Comp | believed |
| b. Chelswu-nun [Yenghi-lul chencay-i-essta-ko] | mitessta. |
| Top Acc was a genius-Comp | believed |

property of the non-theta bound ECs in the embedded clause. That is, both cases involve pro, contrary to Huang's (1984, 1987, and 1989) claim.

6.3.4.4. On Constraints on Topicalization

So far this chapter has shown that topicalization can be interpreted as an instance of A-scrambling triggered by the Spec-Head agreement. Since it is claimed that topicalization is a subclass of A-scrambling, it is natural that topicalization is constrained by the general conditions such as the ECP and subjacency. That is when there is a complex NP, an NP inside of the complex NP may not be extracted for topicalization. In this case, an EC in the complex NP may be identified as an empty resumptive pronoun. A remaining question related to this issue is how the current proposal can explain the ungrammaticality of (29), which is repeated as (92):

- (92) * John₁-un [nay-ka [[EC₁ t₂ coaha-nun] chayk₂-ul sassta.
 Top Nom like-Rel book-Acc bought
 'As for John, I bought the book which (he) likes.'

The ungrammaticality of the sentence is not based on the unavailability of the resumptive pronoun, but a sort of disagreement between the topicalized NP John-un and the EC. Since topic interpretation of an NP in a relative clause is prohibited as pointed out in 5.1.2.2., it is not allowed to relate the two positions.

Chomsky (1981,158) argues that the variable *t* cannot be coindexed with the pronoun *he* in the following sentences due to strong crossover.

- (93) a. who did he say [Mary kissed *t*]
 b. who did he say [*t* kissed Mary]

Chomsky also points out that the similarity between variables and names is observed in the conditions of strong crossover. In case of (39) in 5.2.1., the EC should be interpreted as a variable if the topic NP is located in A'-position, giving the following representation:

- (94) Topic₁ pronoun₁ EC₁ (variable)

This is the exact case of strong crossover, but the sentence in the structure, i.e., (38b), is grammatical, which strongly suggests that the EC is not a variable.

6.3.5. Summary of the Arguments

In the previous section, I have argued that not all gaps are created by topic movement, i.e., topicalization, and that some topic-marked NP's are base-generated. Let's think about some basic properties of topic NPs in Korean. First, topic NPs, i.e., NPs marked with the topic marker -(n)un, in Korean can appear in embedded sentences as in (95a) as well as in matrix sentences as (95b).

- (95)a. John-un, [S[S sayngsen-un taykwu-ka coh-ta] -ko]
 Top fish-Top cod-Nom good-decl.Comp
 mal-hay-ss-ta.
 do-Past-decl.
 'John said that as for fish, cod is the best.'

- b. John-un, [S[S ku salam-un chencay la-ko] pulu-
 Top that person-Top genius is-Com call-
 ca-ko] mal hay-ss-ta.
 Prop-Comp said
 'John said, let's call that person (at least) a genius.'

Second, as Whitman (1989) points out, topic NPs never appear where there is no mood marker. Thus, clause-final mood markers such as propositive -ca, appreciative -kwun, suspective -ci, and indicative -ta may not occur inside relative clauses or complex NPs as in (96).

- (96) a. [NP[S[S Kaul-i/*-un o-nu]-n] soli-ka]NP
 Autumn-Nom/Top come-Prs Comp sound-Nom
 tul-li-n-ta.
 hear-Pass-Indic
 'The sound of autumn coming can be heard.'
- b. [S[S Ney cwucang-i/*-un olh-ass]-um-ul wuli-nun
 your claim-Nom/Top right-Past-Comp-Acc we-Top
 nacwung-ey-ya kkaytal-ass-ta.
 end-in-only realize-Past-Ind.
 'Only in the end did we realize the rightness of your claim.'

Since the relative clauses in (96a) and (96b) do not carry any mood marker, the topic marker *-(n)un* is not allowed. Third, mood markers of the embedded sentences are selected by the matrix verbs, and all matrix sentences should carry a mood marker. Fourth, the mood markers occur right before complementizer *-to* or *-n*. Fifth, the honorific agreement in Korean also supports the claim that Korean topicalization is an instance of a type of Spec-Head agreement. In a nutshell, all these properties boil down to one conclusion, that topic NPs are licensed by INFL (or mood markers). Since mood-markers appear just before the complementizer in Korean, one can hardly think that topic NPs are generated outside of IP.

In addition to the logical conclusion, there are some crucial implications of this study. First, it can explain why the Wh-island effect cannot be observed in Korean topicalization. Second, it can also explain why Korean does not topicalize an NP in a relative clause. Since the [+topic] feature is not licensed in a relative clause in Korean, there is no way to produce a topic in it. Third, since topicalization does not involve Wh-operator movement, it is natural that topicalization does not cause WCO effect in Korean. Fourth, an embedded EC co-indexed with a topic NP must be interpreted as *pro*.

6.4. Theoretical Implications of the Analysis

Huang (1984) claims that null objects in Chinese are A'-bound variables and claims that null objects obey Principle C of Chomsky's Binding Theory.

- (97)a. [e_j] TOP Zhangsan_i shuo [Lisi bu renshi e+_j].
say not know
'Zhangsan said that Lisi does not know [him].'
- b. Zhangsan_i shuo [Lisi bu renshi ta i_j]
say not know him
'Zhangsan said that Lisi does not know him.'

- c. [0_i] Zhangsan_i shuo [e_i_j bu renshi Lisi]
 say not know
 'Zhangsan said that [he] does not know Lisi.'

- d. [0_j] Zhangsan_i shuo [ta_i_j bu renshi Lisi]
 say he not know
 'Zhangsan said that he does not know Lisi.'

The object EC cannot be bound by the subject NP Zhangsan as we can observe in (97a), while pronoun can as in (97b). This fact is contrasted with examples in (97c) and (97d) where a subject EC and pronoun can be bound either by a c-commanding NP or by a null operator. Based on this subject-object asymmetry of ECs in binding properties, Huang claims the following:

- (98) Chinese ECs a) Subject EC : pro
 b) Object EC : variable

Hasegawa (1984) also observes subject-object asymmetries in Japanese. Here are some of her examples:

- (99) a. John_i-ga [e_i_j Mary-o nagutta to] itta.
 nom acc hit that said
 'John_i said that he_i_j hit Mary.'
 b. John_i-ga [Mary-ga e*_i_j nagutta to] itta
 nom nom hit that said
 'John_i said that Mary hit him*_i_j'

If the EC occurs in the subject position of the embedded sentence, *e* can either refer to the matrix subject or to a discourse topic, but if the EC occurs in the object position of the embedded sentence, coindexing *e* with the matrix subject Mary will cause an ungrammatical sentence. In other words, if there is an EC in the object position, it should be a discourse topic. Lee (1987) claims the same thing for Korean. However, as we have seen, Korean provides counterexamples to the claim made by Huang (1984, 1987, 1989), Hasegawa (1984), and Lee (1987). As in Cole (1987), I advocate the claim that the object EC in Korean is *pro*. First, let's look at the following Korean data.

- (100) a. John_i-i [e_i_j Mary-lul ttayry-ess-ta ko] malha-ess-ta.
 nom acc hit-past-decl comp say-past-decl
 'John_i said that he_i_j hit Mary'
 b. John_i-i [Mary-ka e_i_j ttayry-ess-ta ko] malha-ess-ta.
 nom nom hit Comp said
 'John_i said that Mary hit him_i_j'

Contrary to the Chinese and Japanese examples, coindexing *e* with the matrix subject 'John' is perfectly all right in Korean. I can provide further examples of this kind. Let's look at Cole's example.

- (101) a. Chelswu_i-ka [Yenghi-ka e_i hyeppakha-ess-ta ko]
 Nom Nom threatened-decl comp
 cwucangha-ess-ta.
 claimed-decl
 'Chelswu claims that Yenghi threatened him'
 b. John_i-un [Bill-i e_i cenhwaha-ess-ta nun] sasil-ul
 Top Nom call-Past-decl comp fact-Acc
 acik morun-ta.
 yet not-know-decl
 'John_i doesn't know the fact that Bill called e_i'

Since the Korean object EC allows coindexing like this, it is very difficult to accept Huang's claim that object ECs are always a discourse topic. Here we could raise two questions : i) Is the object EC really a variable? ii) How can we explain the case in which an EC occurring in object position is coindexed with the matrix subject NP?

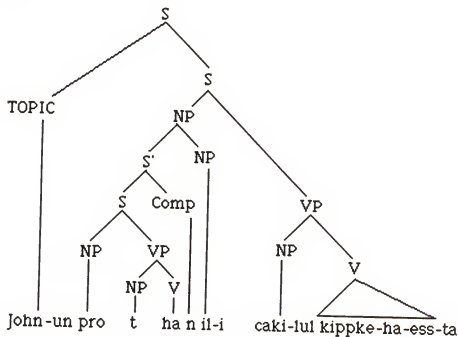
Another attack on the claim that object EC in Korean is *pro* is based on the claim that the subject NP in (97a) and (97b) is not in A'-position, i.e., it is in A'-position. This claim, however, faces some problems also. First, there is no reason that only the subject NP in (97a) and (97b) is claimed to be in A'-position, while the subject NP in (97c) and (97d) is assumed to be in A'-position. Second, if I

assume that it is in A'-position, I may not be able to explain why sentences like the following satisfies Binding Condition A.

- (102)a. John_i-i [[e_i e_j han] il_j-i]caki_j-lul kippkeha-ess-ta.
 Nom did job-nom self-acc be pleased
 'The job John did made himself be pleased.'
- b. John_i-un [[e_i e_j han] il_j-i]caki_j-lul kippkeha-ess-ta.
 Top did job-nom self-acc be pleased
 'The job John did made himself be pleased.'

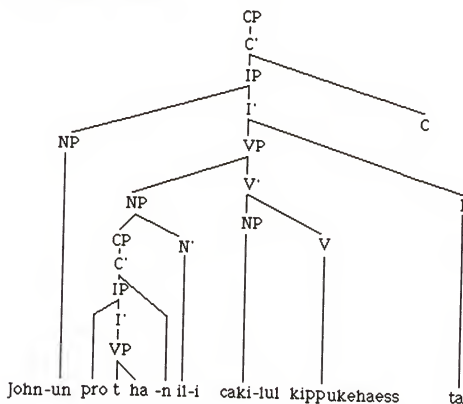
This is a typical double nominative structure in Korean. If the first NP takes a nominative case marker as in (102a), it is called a FOCUS structure, and if there is a topic marker after the NP as in (102b), it is called a TOPIC structure. The first *e* should be *pro* in both sentences because there is no movement applied, and the second *ec* is the trace of *il* 'job' which is relativized. According to Yang (1990), sentence (102a) will be represented as follows:

(103)



If there is a coreferential relation between John and caki, it necessitates that the NP in FOCUS position is the antecedent of the anaphor caki in (103). In addition,

according to predication theory, subject, topic and focus can serve as a predicational subject. If one claims that John is in A'-position, he cannot say caki is bound in its local domain, which causes a serious problem in Chomsky's binding theory. One possible solution to this problem is to posit a structural representation as follows:



6.5. Summary

This chapter has discussed three possible analyses for topic-as-a A'-element and pointed out that there are two groups of topic-marked NPs: one generated by topicalization via Spec-Head agreement and the other created by base-generation, i.e., the nongap topic construction. I have further argued that topic NP can be base-generated under [SPEC, Mood] position based on the following observations: i) topic NPs in Korean may appear in embedded sentences

as well as matrix sentences; ii) topic NPs never appear where there is no mood marker; and iii) the mood markers appear under I (or equivalently, M) in Korean. Finally, topic NPs derived by the process of the Spec-Head agreement may be argued to be an instance of scrambling, specifically, substitution-type scrambling, and the landing site of the topicalization is not A'-position but A-position.

CHAPTER 7 CONCLUDING REMARKS

This study has pursued two major goals: i) to present arguments that the binding properties of null objects in Korean provide positive evidence that Korean allows null pronominal objects as well as null pronominal subjects, and ii) to propose the licensing and identification device in the Minimalist Program advocated by Chomsky (1992).

As I pointed out in Chapter 4, Huang(1984) proposes that Chinese allows null pronominal subjects, but null objects in Chinese are variables A-bar bound by zero (null) topic operator. He further claims that languages like Korean and Chinese cannot get a construction in which a null object is bound by an NP which is not in the topic position. As I argued in Chapter 7, however, Korean clearly reveals positive evidence for the claim that Korean allows pro object. My claim is strongly supported by Cole (1987), Kim (1988), Moon (1987), and Yang (1982), for Korean. The current study presents not only the claim of the existence of pro object but also a broader survey on the distribution of pro object. As it is argued in Chapter 3, the Korean data strongly suggest that pro object is observable in embedded and adverbial clauses in Korean.

Cole's (1987) claim that there are languages allowing null pronominal objects is well-taken in this study. His proposal that the identification condition on pro as a Generalized Control Rule (GCR) proposed by Huang (1984) needs to be modified because, as it is argued in Chapter 4, Huang's GCR

does not apply to Korean.¹ Huang's underlying assumption that the relation between *pro* and coindexed agreement features is functionally equivalent to the relation between PRO and its antecedent, however, is addressed in a slightly different way. As Chomsky indicated in his recent proposal, the relation between the subject and AGR_s and the relation between the object and AGR_o are basically the same in that they are in a SPEC-head agreement relation.

Rizzi (1986), who first introduced the notions of LICENSING and IDENTIFICATION, is basically correct in that he relates *pro* licensing with case. Earlier researches like Taraldsen (1978), Chomsky (1982) and Huang (1984) have not distinguished these two notions. Two types of *pro* licensing devices are discussed in this study: morphological uniformity (Jaeggli and Safir, 1989) and government by a case-marking licensing head X° (Rizzi, 1986). The current study fits with Rizzi's conceptualization with a minor revision. Instead of stating a case-marking licensing head X°, it is argued that [+ specified] AGR licenses and identifies *pro* both in subject position and in object position. There is an exception in this generalization, which is that *pro* taking arbitrary reference is not licensed and identified by AGR element.

Three major approaches are reviewed in the discussion of *pro* identification. First, there is an attempt to parameterize AGR as in Hermon and Yoon (1989). Second, there is an attempt to parameterize the existence of a null topic operator (Huang, 1984, 1987, and 1989). Finally, there is an attempt to parameterize the applicability of GCR (Cole, 1987). Among these approaches, Hermon and Yoon's (1989) approach is argued to be appropriate

1. If we follow Cole's argument, languages like Korean and Thai may have unidentified *pro* objects because the GCR in these languages holds only for PRO. While Cole's solution accounts for the existence of unidentified *pro* objects in Chinese, it may not give any solution for the identification of *pro* objects in Korean and Thai.

for the theory of pro-drop parameter because it generalizes every possible instances of pro drop within a single framework.

As for the prediction of the theories, first, Huang's (1984, 1987 and 1989) theory does not predict the existence of pro objects which are common in discourse-oriented languages like Korean and Japanese. Second, Cole's theory (1987), a variation of Huang's analysis, tries to parameterize the applicability of GCR on the assumption that Chinese does not allow pro object while Korean allows pro object because of the GCR effect. The current study is consonant with Cole's prediction in that Korean contains pro objects. Finally, Hermon and Yoon's (1989) theory is viable for Korean data although it still lacks an explanation on the pro Identification. Their [+deictic] AGR may identify pro in subject position since Korean honorific expressions show subject-verb agreement. But, it is impossible to think of object-verb agreement in a traditional sense. Notice that Hermon and Yoon's analysis allows pro in both subject and object positions (genitive NP position also can be null).

BIBLIOGRAPHY

- Adams, M. 1985. Old French, null subjects, and verb second phenomena. Ph.D dissertation, UCLA, Los Angeles, California.
- Áfarli, Tor. 1987. 'Non-subject pro-drop in Norwegian.' Linguistic Inquiry 18 (2) : 339-45.
- Ahn, H-D and Yoon, H-J. 1989. 'Functional categories in Korean.' Harvard WOKL III : 79-88.
- Anderson, Stephen. 1986. 'The typology of anaphoric dependencies: Icelandic (and other) reflexives.' In Hellan, L. and Koch, K., (eds.) Topics in Scandinavian Syntax. 65-88. Dordrecht, Holland: D. Reidel.
- Andrews, Avery D. 1982. 'Long distance agreement in modern Icelandic.' In Jacobson, P. & Geoffrey, K., (eds.) The nature of syntactic representation. 1-33. Dordrecht, Holland: D. Reidel.
- Aoun, Joseph. 1985. A grammar of anaphora. Cambridge, Mass.: The MIT Press.
- Aoun, Joseph. 1986. Generalized binding. Dordrecht, Holland: Foris Publication.
- Authier, J.-Marc P. 1988. 'Null object constructions in Kinande.' Natural Language and Linguistic Theory 6 : 19-37.
- Bak, S-Y. 1981. Studies in Korean syntax: Ellipsis, topic and relative constructions. Ph.D. dissertation, University of Hawaii, Honolulu.
- Baker, M. C. 1988. Incorporation: A theory of grammatical function changing. Chicago: Chicago University Press.
- Baltin, M. 1982. 'A landing site theory of movement rules.' Linguistic Inquiry, 13/1.
- Battistella, Edwin and Xu, Yonghui. 1990. 'Remarks on the reflexive in Chinese.' Linguistics 28 : 205-40.
- Battistella, Edwin. 1985. 'On the distribution of PRO in Chinese.' Natural Language and Linguistic Theory 3 : 317-40.
- Battistella, Edwin. 1989. 'Chinese reflexivization: A movement to INFL approach.' Linguistics. 27 : 987-1012.
- Bilola, Emond. 1991. 'Null subjects, identification, and proper government.' Linguistics 29 : 33-51.

- Borer, Hagit. 1983. Parametric syntax. Dordrecht, Holland: Foris.
- Borer, Hagit. 1986. 'I-Subjects.' Linguistic Inquiry 17 (3) : 375-416.
- Borer, Hagit. 1989. 'Anaphoric AGR.' In Jaeggli, O and Safir, K., (eds.) The null subject parameter. 69-109. Dordrecht, Holland: Kluwer Academic Publishers.
- Bouchard, Denis. 1984. On the content of empty categories. Dordrecht, Holland: Foris.
- Bresnan, Joan and Mchombo, Sam A. 1987. 'Topic, pronoun, and agreement in Chichewa.' Language 63 (4) : 741-82.
- Browning, Marguerite. 1987. Null operator constructions, Ph.D. dissertation, MIT.
- Byrne, Francis. 1986. 'Evidence against grammars without empty categories.' Linguistic Inquiry 17 (4) : 754-9.
- Campos, Héctor. 1986. 'Indefinite object drop.' Linguistic Inquiry 17 (2) : 354-359.
- Cha, H-S. 1983. Native language interference in foreign language learning with special reference to EFL for Korean learners, Ph.D. dissertation, Georgetown University, Washington, D.C.
- Chay, W. 1976. 'Cosa "nun" uy uymi (The meaning of particle 'nun'),' Kwukuhak 4.
- Cho, E. 1990. On the existence of AGR element in Korean, Ms, Dongguk University, Seoul.
- Choe, Hyon Sook. 1986. 'Syntactic adjunction, A-chain and the ECP--Multiple identical case construction in Korean.' NELS 17 (1) : 100-120.
- Choe, Hyun Sook. 1988. Restructuring parameters and complex predicates--A transformational approach. Ph.D. dissertation, MIT.
- Chomsky, Noam. 1965. Aspects of the theory of syntax, MIT Press, Cambridge, Mass.
- Chomsky, Noam. 1970. 'Remarks on nominalization', In Jacobs & Rosenbaum, (eds.) Readings in English Transformational Grammar, Waltham, Mass.: Ginn and Company.
- Chomsky, Noam. 1981. Lectures on government and binding. Dordrecht, Holland: Foris.

- Chomsky, Noam. 1982. Some concepts and consequences of the theory of government and binding. Linguistic Inquiry Monograph #6, Cambridge, Mass.: MIT Press.
- Chomsky, Noam. 1986a. Knowledge of language: Its nature, origin and use, New York: Praeger.
- Chomsky, Noam. 1986b. Barriers. Linguistic Inquiry monographs; 13. Cambridge, Mass.: The MIT Press.
- Chomsky, Noam. 1989. 'Some notes on economy of derivation and representation', MIT Working Paper 10 : 43-74.
- Chomsky, Noam. 1991. 'Some notes on economy of derivation and representation', In R. Freidin, ed. Principles and parameters in comparative grammar. Cambridge, Mass. : MIT Press.
- Chomsky, Noam. 1992. A minimalist program for linguistic theory, MIT Occasional Papers in Linguistics #1.
- Cole, Peter. 1987. 'Null objects in universal grammar.' Linguistic Inquiry 18 (4) : 597-612.
- Cole, Peter, Hermon, G. and Sung, Li-May. 1990. 'Principles and parameters of long-distance reflexives.' Linguistic Inquiry 21 (1) : 1-22.
- Culicover, P. W. and Wilkins, W. 1986. 'Control, PRO, and the projection principle.' Language 62 (1) : 120-153.
- Davis, Lori J. 1987. 'Remarks on government and proper government.' Linguistic Inquiry 18 (2) : 564-68.
- Enç, Mürvet. 1989. 'Pronouns, licensing, and binding.' Natural Language and Linguistic Theory 7 : 51-92.
- Evans, G. 1980. 'Pronouns.' Linguistic Inquiry 11 (2) : 337-362.
- Farmer, Ann Kathleen. 1984. Modularity in syntax : A study of Japanese and English. Cambridge, Mass: The MIT Press.
- Farrell, Patrick. 1990. 'Null objects in Brazilian Portuguese.' Natural Language and Linguistic Theory 8 : 325-346.
- Franks, Steven. 1990. 'On the status of null expletives'. Lingua 81 : 1-24.
- Fukui, Naoki. 1986. A theory of category projection and its implication. Ph.D. dissertation, MIT.

- Fukui, Naoki. 1987. 'Spec, agreement, and the comparative syntax of English and Japanese.' NELS 17 (1) : 193-210.
- Fukui, N. and Speas, M. 1986. 'Specifiers and projection', MIT Working papers 8.
- Georgopoulos, Carol. 1991. 'A- and A'- agreement'. Lingua 85 : 135-169.
- Gerts, Donna B. 1987. 'Surface case and grammatical relations in Korean: The evidence from quantifier float.' Studies in Language 11 (1) : 181-97.
- Gilligan, G. M. 1987. A cross-linguistic approach to the pro-drop parameter. Ph.D. dissertation, University of Southern California.
- Gilligan, G. M. 1988. 'Arbitrary agreement.' CLS 24 : 105-116.
- Giorgi, Alessandra. 1983-4. 'Toward a theory of long distance anaphors: a GB approach.' The Linguistic Research 3 : 307-361.
- Goodall, Grant. 1986. 'On argument structure and L-marking with Mandarin Chinese BA.' NELS 17 (1) : 232-242.
- Goodall, Grant. 1990. 'X-internal word order in Mandarin Chinese and universal grammar.' Linguistics 28 : 241-261.
- Grimshaw, Jane. 1986. 'Unaccusatives—An overview.' NELS 17 (1) : 244-258.
- Haegeman, Liliane. 1991. Introduction to government and binding theory. Oxford: Blackwell.
- Haik, Isabelle. 1990. 'Anaphoric, pronominal and referential INFL.' Natural Language and Linguistic Theory 8 : 347-374.
- Hasegawa, Nobuko. 1984-5. 'On the so-called "zero pronouns" in Japanese.' The Linguistic Research 4 : 289-341.
- Her, One-Soon. 1991. 'Topic as a grammatical function in Chinese.' Lingua 84 : 1-23.
- Hermon, G. and Yoon, James. 1989. 'The licensing and identification of pro and the typology of AGR.' CLS : 175-92.
- Hoeksema, Kack and Napoli, D. J. 1989. 'What is wrong and what is right with i-within-i.' CLS 25 : 315-327.
- Hoh, Pau-San and Chiang, Wen-yu. 1990. 'A focus account of moved Wh-phrases at S-structure in Chinese.' Lingua 81 : 47-73.
- Hoji, Hajime. 1985. Logical form constraints and configurational structures in Japanese. Ph.D. dissertation, University of Washington, Seattle.

- Hoji, Hajime. 1986. 'Empty pronominals in Japanese and subject of NP.' NELS 17 (1) : 290-310.
- Hoji, Hajime. 1990. Theories of anaphora and aspects of Japanese syntax. Ms. To be published by the MIT Press.
- Hoji, Hajime and Saito, Mamoru. 1983. 'Weak crossover and move- α in Japanese.' Natural Language and Linguistic Theory 1 : 245-259.
- Hong, Sung-Shim. 1985. A and A' binding in Korean and English: government and binding parameter. Ph.D. Dissertation, University of Connecticut, Storrs.
- Horrocks, Geoffrey. 1987. Generative grammar. London: Longman.
- Horvath, Julia. 1986. Pronouns in discourse and sentence grammar.' Linguistic Inquiry 17 (4) : 759-66.
- Hou, John Y. and Kitagawa, Chisato. 1987. Null operators and the status of empty categories in Chinese.' Linguistic Inquiry 18 (3) : 518-23.
- Huang, C.-T. James. 1982. Logical relations in Chinese and the theory of grammar. Ph.D. dissertation, MIT.
- Huang, C.-T. James. 1984. 'On the distribution and reference of empty pronouns.' Linguistic Inquiry 15 (4) : 531-74.
- Huang, C. -T. James. 1987. 'Remarks on empty categories in Chinese.' Linguistic Inquiry 18 (2) : 321-37.
- Huang, C.-T. James. 1989. Complex predicate in generalized control. Ms., Cornell University.
- Huang, C.-T. James. 1991. 'Remarks on the status of the null object.' In R. Freidin, ed. Principles and parameters in comparative grammar. Cambridge, Mass. : MIT Press.
- Huang, C.-T. James and Tang, C.-C. Jane. 1988. 'On the local nature of the long-distance reflexive in Chinese.' NELS 19 : 191-206.
- Iatridou, Sabine. 1986. 'An anaphor not bound in its governing category.' Linguistic Inquiry 17 (4) : 766-72.
- Iwakura, Kunihiro. 1989. 'Binding theory and antecedent-pronoun relations.' Linguistic Analysis 19 (3-4) : 202-219.
- Iwakura, Kunihiro. 1990. 'Binding theory and two types of PRO.' Linguistic Analysis 20 (3-4) : 121-138.

- Jaeggli, Osvaldo A. 1986. 'Arbitrary plural pronominals.' Natural Language and Linguistic Theory 4 : 43-76.
- Jaeggli, Osvaldo A. 1987. 'Morphological uniformity and the setting of the null subject parameter.' NELS 18 (1) : 238-253.
- Jaeggli, Osvaldo and Safir, K. J. 1989. The null subject parameter and parametric theory. Dordrecht, Holland: Kluwer Academic Publishers.
- Jeon, K.-J. 1992. 'Subject deletion and null pronominal in Korean.' Studies in generative grammar 2/2 : 335-59.
- Jones, Charles. 1987. 'Empty operators and parasitic gaps.' NELS 18 (1) : 254-270.
- Kameyama, Megumi. 1986. Japanese zero pronominal binding: Where syntax and discourse meet. Stanford University: CSLI (Center for the Study of Language and Information).
- Kang, Beom-Mo. 1988. 'Unbounded reflexives.' Linguistics & Philosophy 11 : 415-56.
- Kang, Myung-Yoon. 1988. Topics in Korean syntax: phrase structure, variable binding and movement. Ph.D. dissertation, MIT.
- Kang, Young-Se. 1986. Korean syntax and universal grammar. Ph.D. dissertation, Harvard University.
- Katada, Fusa. 1989. 'What can long-distance anaphora say about operator systems of syntax.' NELS 20 : 249-263.
- Kendall, S. A. and Yoon, James. 1986. 'Sentence-final particles as evidence for morphosyntactic interaction.' CLS 24
- Kim, Insoo. 1992. 'On the syntactic recoverability of null objects in Korean,' Proceedings of the 1992 Seoul International Conference on Linguistics: 408-17.
- Kim, Insoo. 1992. 'Topicalization as A-scrambling,' To appear in Harvard ISKOL-1993.
- Kim, Kyung-Hak. 1990. 'Lexical functional grammar and control in Korean.' Linguistic Research 26 (1) : 159-177.
- Kim, Yang Soon. 1988. Licensing principles and phrase structure. Ph.D. dissertation, University of Wisconsin, Madison.
- Kim, Yong-Suck. 1986. Licensing conditions on syntactic representation. Ph.D. dissertation, Kyung Hee University, Seoul.

- Klaiman, M. H. 1991. 'Control and grammar.' Linguistics 29 : 623-651.
- Konflikt, J. 1987. 'A typology of morphological agreement and its syntactic consequences.' CLS 24: 117-34.
- Koopman, Hilda & Sportiche, D. 1988. Subjects ms., UCLA.
- Koopman, Hilda & Sportiche, D. 1991. 'The Position of subjects.' Lingua 85 : 211-258.
- Kuno, S. 1978. 'Japanese: a characteristic SOV language.' In W. P. Lehman (ed.) Syntactic typology, University of Texas Press.
- Kuno, S. 1987. Functional syntax: Anaphora, discourse and empathy. Chicago: University of Chicago Press.
- Kuroda, S-Y. 1988. 'Whether we agree or not: A comparative syntax of English and Japanese.' In W. Poser (ed.) Papers from the second international workshop on Japanese syntax, CSLI, 103-143.
- Laca, Brenda. 1990. 'Generic objects.' Lingua 81 : 25-46.
- Laka, Itiar. 1990. Negation in syntax: On the nature of functional categories and projections. Ph.D. dissertation, MIT.
- Langendoen, Xu Liejong and D. T. 1985. 'Topic structures in Chinese.' Language 61 (1) : 1-27.
- Larson, Richard K. 1988. 'On the double object construction.' Linguistic Inquiry 19 (3) : 335-91.
- Lasnik, Howard. 1986. 'A note on anaphora and double objects.' Linguistic Inquiry 17 (2) : 347-54.
- Lasnik, Howard. 1986. 'On Accessibility.' Linguistic Inquiry 17 (1) : 126-9.
- Lasnik, Howard. 1988. 'Subjects and its theta-criterion.' Natural Language and Linguistic Theory 6 : 1-17.
- Lasnik, Howard. 1989. Two notes on control and binding. Ms., Univ. of Connecticut.
- Lasnik, Howard and Saito Mamoru. 1984. 'On the nature of proper government.' Linguistic Inquiry 15 (2) : 235-289.
- Lee, C-M. 1973. Abstract syntax and Korean with reference to English. Ph.D. dissertation, Indiana University.
- Lee, Chongmin. 1986. 'Pro drop in Korean.' Linguistics Research 13 : 83-94.

- Lee, Hong-Bae. 1987. 'On empty categories in Korean.' Linguistic Journal of Korea 12 (1) : 261-94.
- Lee, K.Y. 1969. 'A syntactic analysis of /-nun/ and /-ka/.' Thesis Clection (Chonbuk National University) 11.
- Lee, Nagiko. 1986. 'Subject ellipsis in Japanese.' Working Papers in Linguistics (U. Hawaii) 18 (2) : 1-30.
- Li, Yafei. 1990. Conditions on X⁰-Movement. Ph.D. Dissertation, MIT.
- Lightfoot, D. and Hornstein, N. 1987. 'Predication and PRO.' Language 63 (1) : 23-52.
- Liu, Feng-hsi. 1986. 'On topic-traces in Chinese.' WCCFL 5 : 142-153.
- Mahajan, Anoop Kumar. 1990. The A/A-bar distinction and movement theory. Ph.D. dissertation, MIT.
- Maling, Joan and Zaenen, Annie. 1982. 'A phrase structure account of Scandinavian extraction phenomena.' In Topics in Scandinavian Syntax : 229-82.
- Maling, Joan. 1984. 'Non-clause-bound reflexives in modern Icelandic.' Linguistics and Philosophy 7 : 211-41.
- Maling, Joan. 1986. 'Clause-bound reflexives in modern Icelandic.' Topics in Scandinavian Syntax : 53-63.
- Mallén, Enrique. 1992. 'Subject topicalization & inflection in Spanish.' Theoretical Linguistics 18: 179-208.
- Manzini, Maria R. 1983. 'On control and control theory.' Linguistic Inquiry 14 (3) : 421-446.
- Massam, Diane. 1986. 'Case theory and the projection principle.' The Linguistic Research 5 : 377-390.
- Mohanan, K. P. 1983. 'Functional and anaphoric control.' Linguistic Inquiry 14 (4) : 641-74.
- Moon, Gui-Sun. 1987. 'The distribution of pro in Korean and the theoretical implications.' Harvard WOKL II : 104-126.
- Moon, Gui-Sun. 1989. The syntax of null arguments with special reference to Korean. Ph.D. dissertation, University of Texas, Austin.

- Moon, Gui-Sun. 1991. 'Identification of null arguments.' Studies in Generative Grammar 2/1 : 187-218.
- Nakayama, Mineharu & Koizumi, Masatoshi. 1991. 'Remarks on Japanese subjects.' Lingua 85 : 303-319.
- Nam, K.-S. and Ko, Y.-K. 1985. Pyocwun Kwukemwunbeblon (Standard Korean Grammar). Seoul: Top Publishers.
- No, Yong-Kyoon. 1991. 'A centering approach to the *[CASE] [TOPIC] restriction in Korean.' Linguistics 29 : 653-668.
- O'Grady, William. 1987. 'Discontinuous constituents in a free word order language.' Syntax and Semantics
- O'Grady, William. 1987. 'The interpretation of Korean anaphora: the role and representation of grammatical relations.' Language 63 (2) : 251-77.
- Ouhalla, Jamal. 1988. 'A note on bound pronouns.' Linguistic Inquiry 19 (3) : 485-94.
- Ouhalla, Jamal. 1991. Functional categories and parametric variation. London: Routledge.
- Pollock, J.-Y. 1989. 'Verb movement, universal grammar, and the structure of IP.' Linguistic Inquiry 20 : 365-424.
- Raposo, Eduardo. 1985-6. 'Some asymmetries in the binding theory in Romance.' The Linguistic Research 5 : 75-110.
- Rivero, María-Luisa. 1980. 'On left-dislocation and topicalization in Spanish.' Linguistic Inquiry 11 (2) : 363-393.
- Rizzi, Luigi. 1986. 'Null objects in Italian and the theory of pro.' Linguistic Inquiry 17 (3) : 501-57.
- Rizzi, Luigi. 1991. Relativized minimality. Edited by S. J. Keyser. Linguistic Inquiry Monograph. Cambridge, Mass.: The MIT Press.
- Roberge, Ynes. 1990. The Syntactic recoverability of null arguments. Kingston and Montreal : McGill-Queen's University Press.
- Rögnvaldsson, Eiríkur. 1986. 'Some comments on reflexivization in Icelandic.' Topics in Scandinavian Syntax : 89-102.
- Ross, J. R. 1982. 'Pronoun deleting processes in German.' paper presented at the annual meeting of the Linguistic Society of America, San Diego, California.

- Saito, M. 1985. Some asymmetries in Japanese and their theoretical implications. Ph.D. dissertation, MIT.
- Sheard, Yoshiko. 1991. 'The parenthetical NP-wa in Japanese.' Lingua 84 : 283-313.
- Shibatani, M. 1978. 'The notion of subject.' In J. Hinds and I. Haward (eds.), Japanese grammar problems in Japanese syntax and semantics. Kaitakusha Co.
- Shibatani, M. 1985. 'Passives and related constructions: A prototype analysis.' Language 61: 821-48.
- Shibatani, M. 1990. The languages of Japan. Cambridge, U.K.: Cambridge University Press.
- Shin, Sung-Ock. 1986. 'Tense as an anaphoric phenomenon.' Working Papers in Linguistics (U. Hawaii) 18 (1) : 59-92.
- Sobin, Nicholas. 1991. 'Agreement in CP.' Lingua 84 : 43-54.
- Suh, Chung-Mok. 1989. 'Wh-constructions in Korean.' Harvard WOKL III: 517-26.
- Suñer, Margarita. 1982. Controlled pro. John Benjamins Publishing Company.
- Tanaka, Shichiro. 1990. 'On the nature of objective case marking.' Linguistic Analysis 20 (3-4) : 220-249.
- Tang, C.-C. Jane. 1989. 'Chinese reflexives.' Natural Language and Linguistic Theory 7 : 93-121.
- Traldsen, K. T. 1978. On the NIC, vacuous application and the that-trace filter. mimeographed ms., MIT, Cambridge, Massachusetts; distributed by the Indiana University Linguistics Club, Bloomington, Indiana.
- Traldsen, K. T. 1991. 'Two arguments for functional heads.' Lingua 84 : 85-108.
- Traldsen, Knut Trald. 1981. 'Case conflict in Norwegian topicalization.' NELS 11 : 377-398.
- Toribio, Almeida J. 1990. 'Specifier-head agreement in Japanese.' WOCFL 9: 535-48.
- Travis, L. 1984. Parameters and effects of word order variation. Ph.D. dissertation, MIT.
- Uriagereka, H. Lasnik and J. 1988. A course in GB syntax. Cambridge, Mass: The MIT Press.

- Van Valin, Robert D. Jr. 1986. 'An empty category as the subject of a tensed S in English.' Linguistic Inquiry 17
- Wexler, K. and Culicover, P. W. 1980. Formal principles of language acquisition. Cambridge, Mass.: MIT Press.
- Whitman, John. 1989. 'Topic, modality, and IP structure.' Harvard WOKL III: 341-56.
- Xu, Liejiong. 1986. 'Free empty category.' Linguistic Inquiry 17 (1) : 75-93.
- Xu, Liejiong. 1990. 'Remarks on LF movement in Chinese questions.' Linguistics 28 : 355-82.
- Yang D.-W. 1975. Topicalization and relativization in Korean. Ph.D. dissertation, Indiana University.
- Yang D.-W. 1982. 'Control and binding in Korean.' Linguistic Journal of Korea 7/2 : 257-83.
- Yang, D.-W. 1989. 'On anaphor movement.' NELS 20 : 435-452.
- Yang, Hyun-Kwon. 1990. Categories and barriers in Korean. Ph.D. dissertation, Texas, Austin.
- Yang, I.-S. 1973. 'Semantics of delimiters in Korean.' Language Research 9/2.
- Yim, Young-Jae. 1984. Case-tropism: The nature of phrasal and clausal case. Ph.D. Dissertation, University of Washington.
- Yoon, James. 1986. 'Some queries concerning the syntax of multiple subject constructions in Korean.' Studies in the Linguistic Sciences 16 (2) : 213-36.
- Yoon, James. 1990. 'Theta theory and the grammar of inalienable possession constructions.' NELS 20 : 502-16.
- Yoon, Jeong-Me. 1991. The syntax of A-chains: A typological study of ECM and scrambling. Ph.D. dissertation, Cornell University.
- Yoon, Jong-Yurl. 1990. Korean syntax and generalized X-bar theory. Ph.D. dissertation. University of Texas, Austin.
- Yoon, Jong-Yurl. 1990. 'Functional categories in Korean clausal and nominal structures.' Studies in Generative Grammar 2/2 : 427-64.
- Yoshimura, Noriko. 1987. 'Topicalization and subjacency.' Descriptive & Applied Linguistics 20 : 221-232.

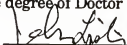
Yu, William X.F. 1988. 'A-bound or not A-bound.' Linguistic Analysis 18 (3-4) : 210-234.

Zhang, Shi. 1988. 'Argument drop and pro.' WCFFL 7 : 363-374.

BIOGRAPHICAL SKETCH


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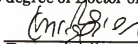
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Professor of Linguistics

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



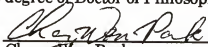
Ann K. Wehmeyer
Assistant Professor of Linguistics

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Enrique Mallén
Assistant Professor of Romance
Languages and Literatures

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



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This dissertation was submitted to the Graduate Faculty of the Program in Linguistics of the College of Liberal Arts and Sciences and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

December, 1992

Dean, Graduate School